NATIONAL INSTITUTE OF SIDDHA

Chennai - 47

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI - 600 032

A STUDY ON

GARPAVAAYU

(Polycystic ovarian disease)

(DISSERTATION SUBJECT)

For
the partial fulfillment of the requirements
to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH I - MARUTHUVAM DEPARTMENT

SEPTEMBER – 2008

Certificate

Certified that I have gone through the dissertation study on GARPAVAAYU submitted by Dr.P.RAJALAKSHMI a student of final MD(S) Branch-I Department of Maruthuvam, National Institute of Siddha, Tambaram sanatorium, Chennai-47, and the dissertation work has been carried out by individual only. This dissertation does not represent or reproduce the dissertation submitted and approved earlier.

Place: Tambaram sanatorium, Chennai-47, HOD & Professor

Date: Dept. of Maruthuvam

CONTENTS

ACKNOWLEDGEMENT

I express my sincere thanks to all **Siddhars**, for giving me the Knowledge of siddha maruthuvam to do this work.

I express my thanks to our director **Prof.Dr.S.Boopathi raj M.D. (s)** National Institute of Siddha, Tambaram sanatorium – 47.

I would like to express my immense gratitude to our respectable Head of the department **Prof. Dr.K. ManikavasagamM.D. (s)** Whose excellent guidance and valuable suggestion have enabled me to complete this dissertation in good shape.

I whole heartedly thank Asso.Prof.Dr**. M.Logamanian M.D. (s)** for his constant motivation and help in doing this work.

I also express my sincere thanks to former Lecturer **Dr.G.Ujjeevanam M.D. (s)** for her encouragement in doing this study.

I also express my sincere thanks to Lecturers **Dr.T.Lakshmi kantham M.D. (s)** and **Dr. H. Veda Merlin kumari.M.D.(s)** for their encouragement in doing this study.

I express my thanks to Prof. **Dr.C. Venkataraman**, the director of C.L.Baid Medha Pharmacy college, Thoraipakkam, Chennai – 96, for his support for pharmacological and phytochemical study.

I express my sincere thanks to **Mr.Thirunavakkarusu**, research student of C.L.Baid Medha Pharmacy college, Thoraipakkam, Chennai – 96, for his support in pharmacological and phytochemical studies.

My sincere thanks also go to **Mr.P.Jayapal** MSc Asst.Prof.of Biostatistics **Mr. M. Subramanian, M.Sc., S.R.O.,** in NIS, Tambaram for his guidance in this study.

I extend my heartful thanks to my ever loving husband **Dr.S.Srinivasan, M.D.(S),** who stood besides me helping, supporting and encouraging me throughout the period of my studies and this dissertation work.

I thank my post graduate colleagues who co-operated throughout this study and made this work a valuable one.

INTRODUCTION

SIDDHA SYSTEM

Siddha System of Medicine is an integrated part of Indian System of medicine, which is very potent and unique system when compared with other traditional systems in existence. Siddha Medicine is contributing much to the health care of human beings

Siddha medicine employs a variety of herbs and minerals, many of which were developed in the ancient past under advanced scientific techniques. The development of medicine has been a continuous process in Asia although it has always taken a more natural approach to healing than western medicine.

Siddha system clearly lays down the general principles of body constituents in the classic Bootha system. Siddhars hold that the universe is a macrocosm made up of the five primordial elements or Boothas, viz Nilam (Earth), Neer (Water), Thee (Fire), Vali (wind) and Veli (Space) and the human being is a microcosm made up of the same five elements.

“mz;lj;jpYs;sNj gpz;lk;

gpz;lj;jpYs;sNj mz;lk;

mz;lKk; gpz;lKk; xd;Nw

mwpe;Jjhd; ghHf;Fk; NghNj.”

- rl;lKdp Qhdk;

Siddha System propounded by the Siddhars defines health as a Perfect state of Physical, Psychological, Social and Spiritual well being of an individual. The system not

only deals with medicine, but with spirituality, righteous way of living, rejuvenation and means of attainment of perfection.

No doubt, the Siddha System of Medicine is one among the foremost of all other medical systems of the world. The other systems are concerned only with treatment and preventive aspects. But Siddha system is the only system which bestows immortality.

The Siddhars were the greatest spiritual scientists and; they were the seekers of truth. “SIDDHU” means “knowledge or wisdom” and “SIDDHI” means “attainment of perfection”. One who attains perfection in life is called as Siddhar. They had thoroughly studied human body, all kinds of plants, minerals, metals and other poisonous drugs and their physical and chemical properties. They are follower of Siva cult. They are experts in Alchemy, Yoga and Kayakalpa, the science of Elixir and also in the field of literature, philosophy, astrology etc. They held that the body is the only instrument with which one could attain success in spiritual evolution and thereby get rid of diseases, decay and death.

Many chronic diseases, considered incurable in western medicine, can be treated successfully with Siddha medicine. Most medicines are for the most part natural and processed in such a way as to be readily absorbed within each cell in the body, giving it proper nourishment to sustain a long and healthy life. As the western medical techniques are, for the most part, very expensive for the average Indian citizens, they generally seek the services of a Siddha physician or other holistic practitioners.

Garpavaayu (Poly Cystic Ovarian Disease)

This PCOD is correlated to *GARPAVAYU* mentioned in *Agathya mamunivar ayulvedham 1200* . As per Saint Agathyar, *Garpavayu* with the symptoms of irregular menstruation, dysmenorrhea, infertility, missed abortions, obesity, low back pain and constipation. closely resembles PCOD in Modern medicine.

Other names for Polycystic ovarian disease (PCOD) are polycystic ovarian syndrome (PCOS) or the Stein-Leventhal syndrome. Polycystic ovarian disease (PCOD) is currently considered the most frequent cause of female infertility. It is also closely associated with syndrome XX, which, in turn, is closely linked with premature and excessive mortality

Polycystic ovarian disease (PCOD) is the most important endocrine abnormality that affects women in reproductive age. Polycystic ovarian disease (PCOD) is characterized by hyperandrogenemia, ovulatory dysfunction and polycystic ovaries (PCO). The increased androgen production in PCOD comes primarily from the ovaries. However, in about 40% of patients there is excessive adrenal androgen production

Patients suffering from polycystic ovarian disease (PCOD) have multiple small cysts in their ovaries. These cysts occur when the regular changes of a normal menstrual cycle are disrupted. The ovary is enlarged; and produces excessive amounts of androgen and estrogenic hormones. This excess, along with the absence of ovulation, may cause infertility.

A "wedge resection" of the ovaries may be used to remove cysts but it still allows contraception (since ova don't mature) and, weight reduction. Maintaining general good health and eliminating the complications of obesity is essential.

NEED FOR THIS STUDY

The change of lifestyle has created a lot of melodies. Nowadays PCOD is one of the causes for female infertility and it may be due to stress and altered dietary habits. During 2005 – 2006, approximately 1000 cases of Soothaga noi (including GARPAVAYU) were recorded in out patient department of Ayothidoss Pandithar Hospital of the National Institute of Siddha The PCOD Symptoms are comparable to the Garpavaayu disease in Siddha System.

Though the modern medicine has advanced in its development it still lacks proper medicine in some diseases like PCOD, Psoriasis, Etc. Treatment for PCOD in modern medicine includes oral contraceptives, Testolactone, and Clomiphene Citrate (chlomid) Metformin,etc. These modern medicines were costly for the lower middle class and poor people and they have many side effects. E.g. Testolactone, and Clomiphene Citrate (chlomid) Metformin,etc. So there is need for other drugs/therapy which could be safe and more effective. Hence I undertook this work.

AIM AND OBJECTIVES

The aim of this dissertation work is to study the efficacy of siddha drug Sengottai valladhi Legium with Kalinga thylam on Garpavaayu (PCOD).

The main objective of this study is to create awareness about Siddha medicine and highlight the efficacy of Siddha medicines for the disease Garpavaayu. The following specific objectives have been drawn.

- To make a correlative study of this disease Garpavaayu on siddha medicine and modern aspects.
- To have an idea about incidence of Garpavaayu with reference to age, sex, residence (Nilam), occurrence and duration of the disease.
- To make a detailed study of investigations, diagnosis and prognosis of the disease.
- To study the course of the disease by Siddha fundamental and modern investigations before and after treatment in all patients.
- To do ultrasonography, hematological study, and urine analysis for all patients.
- To do the biochemical and Pharmacological analysis of the trial drug
- To do the acute and Sub Acute toxicity study of the trial drug.
- To do the Hematological study and in vivo anti – oxidant study of trial drug.

REVIEW OF LITERATURE - SIDDHA

fh;g;g thA

nghUkp uj;je;jd;id kwpj;Jg; NghjkpfTk; typAz;lhq;

FUjpNruh tapW typNghq; nfhs;Sq; fh;g;ge;jid aopf;Fk;

tUbapLg;Gf; File;Jisf;Fk; tyj;ijkpfT kpWf;fpWf;fp

ngUfg;gizf;F nkdg; nghpNahHNgRq; fHg;g thA tpNj

- mfj;jpakhKdptH MAs;Ntjk; 1200

Amenorrhea, Oligomenorrhea followed by Menorrhagea, Dysmenorrhea, Infertility, missed abortions, low back pain, Constipation and Obesity are the symptoms of Garpavaayu.

#jff; fpuhzp

#jfkhk; Nghnjy;yhk; typj;jpuj;jk;

tPo;tjw;Fk; nrhYehf;Fl;

Ngjfkha;f; nfLjg;gp typf;fpDk;

#jff; fpuhzp vd;W Nguhk;

- ruNge;jp itj;jpaKiwfs; fu;g;gpzp ghyNuhf rpfpr;ir

Painful menstruation and irregular menstruation are the symptoms of Soothaga kiraani.

fHg;g tpg;GUjp Fzk;

$wplNt tpg;GUjp jhDk; fUJNghy;

tapw;woNy #jq;fl;Lk;KhwNtjiytypf;Fk;

tPl;Lg;gf;fk;tapw;W typapUJilA Kisf;FNkjhd;

rPwNt GOj;jpuz;L ky kpWf;Fk;

rpRnfu;g;gk; jupahJ cly; cisf;Fk;

MwNt apf;Fzq;fs; jhdwpe;J

mg;gNd kUe;Jz;zr; rpj;jpahNk

- ruNge;jp itj;jpaKiwfs; fu;g;gpzp ghyNuhf rpfpr;ir

Garpa vippuruthy has the symptoms of head ache, dysmenorrhea, pain in the thigh, constipation, infertility and body pain due to the increased Azhal in abdomen which inhibits the menstrual flow and leads to the above symptoms

#jf thA (#rpf thA)

NrSNk #jfj;jpyf;fpdp tha;T

nfLj;JtpL khjtplha; fl;bg;NghFk;

MSNk fUf;FopAk; Jhe;J Njfk;

mg;gNd AjpukJ mb%yj;jpy;

ePSNk #jfj;jpy; tha;T Njhd;wp

Neuhd mbtapW typg;Gf; fhZk;

ghSNk jiytypf;Fk; tapWisf;Fk;

gf;Ftkha; kUe;Jz;zj; jPUe;jhNd

- Mj;kul;rhkpHjk; vd;Dk; itj;jpa rhurq;fpufk;

During menstruation Azhal and vaayu spoils the menstrual flow and cause Oligomenorrhea which leads to closure of Karuk kuzhi. Then the Vaayu gets accumulated in uterus and causes the lower abdominal pain and head ache.

,uj;j #iy

ghh;j;jplNt kq;ifah;f;F uj;j #iy

gfWfpNw dbtapw;iwg; gw;wp epw;Fk;

Nfhh;j;jplNt AjpukJ jpuz;LNkjhd;

Nfhjpg;ngLj;J khjtplha; fhye;jd;dpw;

Nrh;j;jplNt #jfq;fy; kpFe;J fhZQ;

rpWtopaha;f; fUtopAk; gpuz;Lisf;Fk;

Vh;j;jplNt JilapLg;G Tisr;ryhFk;

,uj;jkhQ; #iyFz kpJjhd;ghNu

- Mj;kul;rhkph;jk; vd;Dk; itj;jpa rhurq;fpufk;

Rattha soolai persists in the lower abdomen and causes the collection of menstrual excretions along with the heat. This leads to increased menstrual flow, decreased lumen of the vagina and causes low back pain.

fHg;g #iy

Nfsha; ngz;Nz #iy fHg;gk;

nfLjp nra;Ak; topkhHf;fk;

kpshf; fdYk; fUf;Fopapy;

kpFe;k tha;T mDrhpf;Fk;

epshr; #jk; jhd; gpuz;L

epiwe;j Nrhhp rpRNghthk;

jhsh tapWjhd; typf;Fk;

jdpj;Jr; Nrug;gyd; nfLNk.

- fHg;gf; Nfhs; (rpjk;gujhDg;gps;is)

Due to Garpasoolai kanal and vaayu increases in karukkuzhi leading to abdominal pain, irregular menstruation, collection of menstrual excretion and these all mimic symptoms of a pregnant women.

fHg;g Nuhfk;

nghUkp jpuz;L fPo;tapw;wpy;

Gz;Nghyhf kpfNehe;J

KUtf;Fj;jpf; File;njq;F

nkhf;fr; RuKk; jiytypAk;

ntUtf;Fj;jpr; nray; fl;b

ntbj;Jg; Gz;gl;NlhL gl;Lj;

jpUit nghUj NkdpaNu

nra;Akq; nfu;g;g NuhfkpNj

- ruNge;jp itj;jpaKiwfs; fu;g;gpzp ghyNuhf rpfpr;ir

Pain in lower abdomen, mild fever, headache, tiredness due to pain are the symptoms of Garpa rogam

#jfj;jpy; thA jq;fpa Fzk;

khHifgpbj;j NghJte;jpLk; ehb %d;Wk;

Nrjkhapw;W epd;wNruNt gjpe;Jepw;fpy;

XJNk #jfj;jpy; Xq;fpa tha;Nt epd;W

Ngijaha; thijgd;dp gpzpfis tpisf;Fe;jhNd

- gjpnzz; rpj;jHfs; ehb rh];j;jpuk;

If the three naadies are diminished and found mingled with one another then it indicates the Vaayu gets accumulated in the uterus.

ehb

khjH ifgpbj;j NghJ te;jpLk; thjehb

jPJwntbj;J gha;e;J rpjwpNa rpyk;gpepd;whw;

Ngijjd;tapw;wpd; cs;Ns ngLF RNuhzpjNk jq;fp

thijfs; gz;z khjtpilfhyk; tUj;jk; nra;Ak;

,Lg;nghL fLj;J nehe;J ,iltplhf; Fj;jYz;lha;

jLj;jplh fHg;ge;jd;id jq;fplh tz;zk; nra;Ak;

- gjpnzz; rpj;jHfs; ehb rh];j;jpuk;

If the vatha naadi gets highly increased and scattered, then it produces pain during menstruation, due to collection of menstrual excretion and causes pain in low back and lower abdominal areas. At last, these all lead to infertility

fHg;g Neha; tUk; fhuzk;

Royhky;];jphpfSf;F fh;g;g Neha;jhd;

#o;e;J te;j fhuzj;ijr; nrhy;y NfsPhH

moyhNy tpe;Jtij aopj;j ghtk;

mQ;rhky; ghyfid nfhd;w ghtk;

Fotpapsk; gpQ;R G+g;gwpj;j ghtk;

Nfhtpd; fd;Wf;fpd;wp ghy;FBj;j ghtk;

Tpisthd tpsk;gapiu aopj;j ghtk;

Nkjpdpapy;kylud tpe;ij jhNd

- khjH kUj;Jtk; (rpjk;gujhDg;gps;is)

Increased Azhal, killing of new born babies, plucking of flowers in childhood, without keeping milk for calf extracting the whole milk from the cow and destroying the crops - all these activities cause the female infertility and other gynecological problems

§¿¡ö ¸½¢ôÒ Ó¨È (DIAGNOSIS AND PROGNOSIS)

In piniyarium muraikal the following principles are followed in Siddha system.

There are

1. ¦À¡È¢Â¡ü§È÷¾ø,
2. ÒÄÉ¡ÄÈ¢¾ø,
3. Å¢É¡¾ø.

The maruthuvar (physician) should observe the patient, palpate and interrogate the patient thoroughly. This is understood by this maxim.

“Eyes first and most, Hands next and little, mouth last and never”

I, II, PORIYAL ARITHAL AND PULANAL ARITHAL

Poriyal arithal or understanding by the five organs of perception.

Pulanal arithal or understanding by the senses. They are

1. Mei – Ooru (Somatic sense)
2. Vaai – Suvai (Taste)
3. kan – Oli (Vision)
4. Mookku – Natram (Smell)
5. Sevi – Osai (Sound)

1. Å¢É¡¾ø (INTERROGATION)

An effective history taking helps one to diagnose properly. By vinathal the physician should ask the patient's native place, mode of living, food habits, personal habits, complaints and duration of illness etc. If the patient is deaf or dumb or if the patient is a child, the particulars should be obtained from his relatives or parents.

Poriyal arithal, pulanal arithal and vinathal are applied through eight special tools of investigation that is envagai thervugal.

ENVAGAI THERVUGAL

"¿¡ÊôÀÃ¢ºõ ¿¡¿¢Èõ ¦Á¡Æ¢Å¢Æ¢
ÁÄõ ãò¾¢ÃÁ¢¨Å ÁÕòÐÅÃ¡Ô¾õ"
-«¸ò¾¢Â÷ ¿¡Ê

NAADI

The word pulse means the beating of artery felt with the tip of the fingers. Its rate and character indicate a person's condition of health. It is also understood as the beating, throbbing or rhythmical dilatation of arteries as the blood is propelled through them by the contraction of the heart in the living body. The term pulse in medical practice is usually applied to beat or throb felt in radial artery at the wrist; though it may be felt over the temporal, carotid, ulnar, brachial, femoral and other arteries.

Normally the pulse is recorded in the radial artery in the right hand for the male and left hand for the female by keeping the index finger, the middle finger and the ring finger on it after gently scrubbing the area. It is one unit in vali as felt by index finger and a half

unit in azhal as felt by the middle finger and one fourth of a unit in iyyam as felt by the ring finger. The different diseases could easily be diagnosed with aid of the pulse.

“¿¡Ê ±ýÈ¡ø ¿¡ÊÂøÄ ¿ÃõÀ¢ø ¾¡§É
¿ÄÁ¡¸ò ÐÊì¸¢ýÈ ÐÊ¾¡Û ÁøÄ
¿¡Ê ±ýÈ¡ø Ä¡¾À¢ò¾ º¢§ÄüÀÉÓÁøÄ
¿¡Ê ±ØÀò ¾£Ã¡Â¢Ãó ¾¡ÛÁøÄ
¿¡Ê¦ÂýÈ¡ø «ñ¼¦Ãñ¼¦ÁøÄ¡õ
¿¡Ê ±ØÅ¨¸ò §¾¡üÈòÐûÇ¡ö ¿¢ýÈ
¿¡ÊÂÐ Â¡Ã¡öóÐ À¡÷ò¾¡Ã¡É¡ø
¿¡ÊÔÚõ ¦À¡Õû¦¾Ã¢óÐ ¿¡ÎÅ¡§Ã”

- «¸ò¾¢Â÷ ¿¡Ê

Garpa vaayu naadi

Aggravation of vali nadi produces symptoms of ***Garpavaayu***. This is emphasized in Agathiar nadi, Sathaga nadi and Rathina churukkanadi.

“Å¡¾¦ÁÛõ ¿¡ÊÂÐ §¾¡ýÈ¢ø
º£¾Áó¾¦Á¡Î ÅÂ¢Ú ¦À¡ÕÁø **¾¢Ãðº¢Å¡Ô**
º£¾ÓÕí ¸¢Ã¡½¢ Á§¸¡¾Ãõ ¿£Ã¡¨Á
¾¢ÃûÅ¡Ô Ý¨Ä ÅÄ¢¸ÎôÒò¾£¨Ã
¿£¾ÓÕí ¸¢ÕÁ¢ìýÁõ «ñ¼ Å¡¾õ
¿¢¨ÄÔõ¿£÷ì ¸¢Ã¢îºÃí¸û ¾óÐ §Á¸õ”

-º¾¸ ¿¡Ê

“§ÁÅ¢Â Å¡¾¡¦ºöÔõ Ì½ò¨¾ Å¢ÕõÀ¢ì§¸Ù
¾¡Å¢Â ÅÂ¢Õ Áó¾ó ºóÐì¸ø ¦À¡ÕòÐ§¿¡Å¡õ
§ºÅ¢Â ¾¡Ð¿¡ºî º¢ÚòÐ¼ý º¢Ú¿£÷ Å£Øõ
¸¡Å¢Âí ¸ñ½£É¡§Ç ÁÄÁÐ ¸Õì¸¢¸¡Ûõ”

- Ãò¾¢É ÍÕì¸¿¡Ê

Derangement of vali azhal naadi produces symptoms of Garpavaayu.

“¦À¡ÕÇ¡É Å¡¾ò¾¢ø À¢ò¾ï §º÷óÐ
¦À¡ÕóÐ ì½í¸Ç¡ Ó‰½Å¡Ô ºò¾¢
¦ºÃ¢Â¡¨Á ÒÇ¢ò§¾ôÀõ ¦À¡ÕÁø ¿£Ã¢ü
º¢ÅôÒ**ÁÄõ À¢Êò¾Ö**Õ¾¡Ð ¿ð¼õ”

ehb

மாதர் கைபிடித்த பொது வந்திடும் **வாதநாடி**
தீதுறவெடித்து பாய்ந்து சிதறியே சிலம்பிநின்றாற்
பேதைதன்வயிற்றின் உள்ளே பெடுகு சுரோணிதமே தங்கி
வாதைகள் பண்ண மாதவிடைகாலம் வருத்தம் செய்யும்
இடுப்பொடு கடுத்து நொந்து இடைவிடாக் குத்தலுண்டாய்
தடுத்திடா கர்ப்பந்தன்னை தங்கிடா வண்ணம் செய்யும்
- பதிணெண் சித்தர்கள் நாடி சாஸ்த்திரம்

If the vatha naadi gets highly increased and scattered, then it produces pain during menstruation, due to collection of menstrual excreation and causes pain in the low back and lower abdominal areas. At last, these all lead to infertility

ŠÀÃ¢ºõ

By sparism the temperature of skin (thatpam-cold or veppam-heat), smoothness, roughness, sweating, dryness, hard patches, swelling, abnormal growth of organs and tenderness can be felt.

In Some ***Garpavaayu*** patients tenderness is felt over the lower abdomen and patient’s temperature is increased mildly.

¿¡ (Tongue)

It is the examination of the tongue, its colour, size, shape, coating, moisture, movement, ulcer, fissures, crust and also the condition of teeth and gums. In ***Garpavaayu*** if there is constipation , the tongue would seem to be coated. Most of the Garpavaayu patients had Paleness and dryness

¿¢Èõ (Colour)

It is the examination of the colour of the skin all over body, nail bed, hair etc.

Vali udal	-	Block colour,
Azhal udal	-	Yellow or red colour,
Iyya udal	-	White or yellow

In Garpavaayu, niram of udal depends up on the body constitution

¦Á¡Æ¢ (Speech)

“மாமயிலே சத்தமது அறியவேண்டில்

வாதரோகிசம தொனியாய் வார்த்தை பேசும்

- பதிணெண் சித்தர் நாடி சாஸ்திரம்

“பார்ப்பது தான் **வாத**ரோகி யின்றன் வார்த்தை

பக்குவமாய்ச் **சமசத்த** மாயிருக்கும்

கண்ணுசாமி பரம்பரை வைத்தியம்

By examining mozhi (speech), characters, hoarseness, slurring speech, various disorders of speech such as dysarthria can be noted. In ***Garpavaayu*** the voice is normal.

Å¢Æ¢ (Eye)

“காணுகின்ற வாத ரோகிக்கு கண்கள்

கருநிறமாய் நொந்துமிகத் தண்ணீர்பாயும்

பூணுகின்ற பித்தரோகிகடி மஞ்சள் போலிருக்கம்

சிவப்பு நிறப்பொலிவு தோன்றும்”

- **பதிணெண் சித்தர் நாடி சாஸ்திரம்**

Examine the colour of eye - like reddish or yellowish discoloration and characters like dryness and lacrimation. There may be pallor of conjunctiva due to menorrhagia.

ÁÄõ (Stools)

By examining malam, its nature, colour, quantity and presence of blood or pus can be noted. In Garpavaayu constipation and black colour stools with hardness will be present.

“மேவும் வாத முடையவர் மெய்மலஞ்

சீவிதாகக் கருகிடுஞ் செம்மியே

தன்வந்திரி (பதிணெண் சித்தர் நாடி சாஸ்திரம்)

பொருமி ரத்தந்தன்னை மறித்துப் போதமிகவும் வலியுண்டாங்

குருதிசேரா வயிறு வலிபோங் கொள்ளுங் கர்ப்பந்தனை யழிக்கும்

வருடியிடுப்புக் குடைந்துளைக்கும் **மலத்தைமிகவு மிறுக்கிறுக்கி**

பெருகப்பணைக்கு மெனப் பெரியோர்பேசுங் கர்ப்ப வாயு விதே

- **அகத்தியமாமுனிவர் ஆயுள்வேதம் 1200**

¿£÷ÌÈ¢ (Urine examination)

Siruneer should be collected in early morning; In the previous day patient should eat food of six tastes at regular times and sleep well over night. Then the collected urine should be examined with in 3¾hrs. This is quoted as

“«ÕóÐÁ¡Ã¢¾ÓõÅ¢§Ã¡¾Á¾¡ö

«ì¸ø «Ä÷¾ø «¸¡Äçý ¾Å¢÷ó¾Æü

ÌüÈÇÅÕó¾¢ ¯Èí¸¢ ¨Å¸¨È

¬Êì¸Äºò ¾¡Å¢¦Â¸¡Ð ¦Àö

¦¾¡ÕÓÌ÷ò¾ì ¸¨ÄìÌðÀÎ ¿£Ã¢ý
¿¢ÈìÌÈ¢ ¦¿öÌÈ¢ ¿¢ÕÀ¢ò¾ø ¸¼§É”

-º¢ò¾ ÁÕòÐÅ¡í¸î ÍÕì¸õ

Siruneerin pothugunam :

“Åó¾ ¿£÷ì¸Ã¢ ±¨¼ Á½õ Ñ¨Ã ±ïº¦ÄÉ
¨Èó¾¢ÖÇÅ¨Å Â¨ÈÌÐ Ó¨È§Â”

-º¢ò¾ ÁÕòÐÅ¡í¸î ÍÕì¸õ

Urine sample should be examined using the following five parameters:

1. Niram (Color), 2. Edai (Specific gravity), 3. Nurai (Froth), 4. Natram (Smell), 5. Enjal (Deposits).

NEI KURI

The urine kept on the kidney tray in sun light, on non wind condition, should be examined by dropping a drop of gingelly oil gently with a rod. If oil spreads like a snake it indicates valineer, a ring indicates azhal neer, and a float like a pearl indicates iyya neer and if sinks in urine indicates mukkutram.

“«Ã¦ÅÉ ¿£ñÊÉì§¾ Å¡¾õ”
“¬Æ¢ §À¡ü ÀÃÅ¢ý «ì§¾ À¢ò¾õ”
“Óò¦¾¡òÐ ¿¢ü¸¢ý ¦Á¡Æ¢Å¦¾ý¸À§Á”

-º¢ò¾ ÁÕòÐÅ¡í¸î ÍÕì¸õ

In ***Garpavaayu*** patients, oil spreading like snake indicates Vali neer. Pattern of oil spreading is slow.

ÁÕòÐÅõ (LINE OF TREATMENT)

The main object of treatment is to bring down the deranged mukkutrams to natural equilibrium by giving pugatives, which normalises the deranged vatham which is one of the causes for ***Garpavaayu.***

“§À¾¢Â¡ø Å¡¾õ ¾¡Øõ
Å¡ó¾¢Â¡ø À¢ò¾õ ¾¡Øõ
«ïºÉò¾¡ø ¸Àõ ¾¡Øõ”
-º¢ò¾ ÁÕòÐÅ¡í¸î ÍÕì¸õ

Accordingly the author gives purgation to all patients depending upon their body condition. The author has selected trial drugs Kalinga thylam (15ml at early morning on 3 days of menstruation along with neeragaram for consecutive three cycles) and Sengottai valladhi legium (I gm twice a day for 48 days).

REVIEW OF LITERATURE – MODERN

1. ANATOMY AND PHYSIOLOGY OF THE FEMALE REPRODUCTIVE SYSTEM

The female reproductive system includes the ovaries, Fallopian tubes, uterus, vagina, accessory glands, and external genital organs.

EXTERNAL GENITALIA

The external genitalia are the accessory structures of the female reproductive system that are external to the vagina. They are also referred to as the vulva or pudendum. The external genitalia include the labia majora, mons pubis, labia minora, clitoris, and glands within the vestibule.

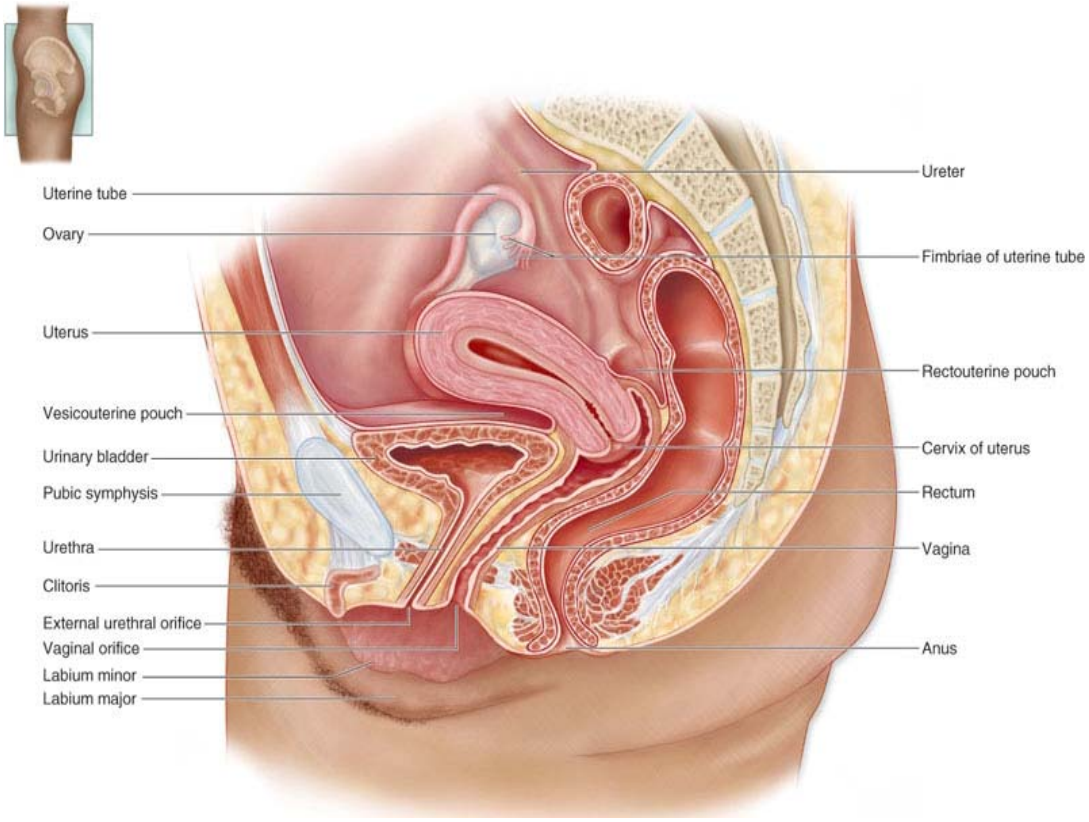
The clitoris is an erectile organ, similar to the male penis, that responds to sexual stimulation. Posterior to the clitoris, the urethra, vagina, paraurethral glands and greater vestibular glands open into the vestibule.

The vagina is a fibromuscular tube, about 10 cm long, that extends from the cervix of the uterus to the outside. It is located between the rectum and the urinary bladder. Because the vagina is tilted posteriorly as it ascends and the cervix is tilted anteriorly, the cervix projects into the vagina at nearly a right angle. The vagina serves as a passageway for menstrual flow, receives the erect penis during intercourse, and is the birth canal during childbirth.

INTERNAL GENITALIA

Uterus

The uterus is lined with the endometrium. The stratum functionale of the endometrium



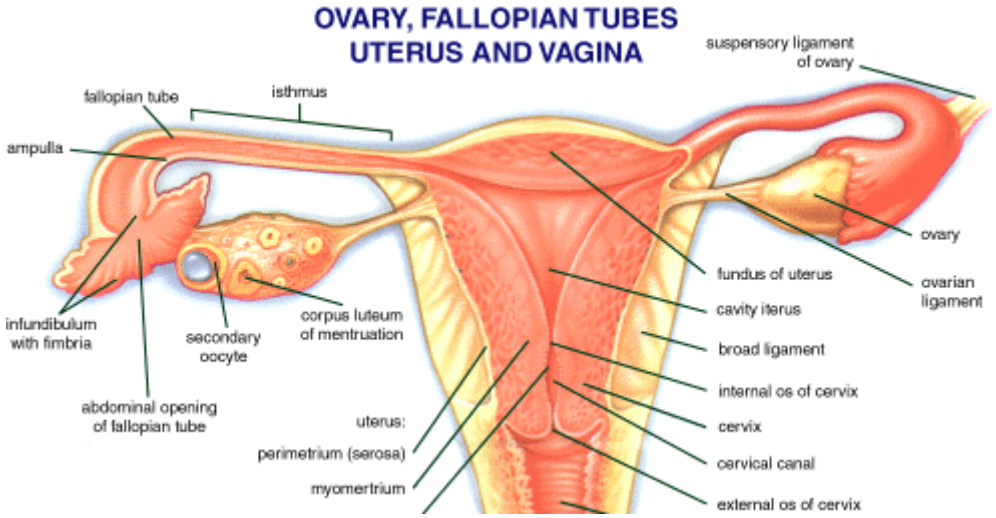
sloughs off during menstruation. The deeper stratum basale provides the foundation for rebuilding the stratum functionale

The uterus is a muscular organ that receives the fertilized oocyte and provides an appropriate environment for the developing fetus. Before the first pregnancy, the uterus is about the size and shape of a pear, with the narrow portion directed inferiorly. After childbirth, the uterus is usually larger, and then regresses after menopause.

Fallopian Tubes

There are two uterine tubes, also called Fallopian tubes or oviducts. There is one tube associated with each ovary. The end of the tube near the ovary expands to form a funnel-shaped infundibulum, which is surrounded by fingerlike extensions called fimbriae. Because there is no direct connection between the infundibulum and the ovary, the oocyte enters the peritoneal cavity before it enters the Fallopian tube. At the time of

ovulation, the fimbriae increase their activity and create currents in the peritoneal fluid that help propel the oocyte into the Fallopian tube. Once inside the Fallopian tube, the oocyte is moved along by the rhythmic beating of cilia on the epithelial lining and by peristaltic action of the smooth muscle in the wall of the tube. The journey through the



Fallopian tube takes about 7 days. Because the oocyte is fertile for only 24 to 48 hours, fertilization usually occurs in the Fallopian tube.

OVARIES

The primary female reproductive organs, or gonads, are the two ovaries. Each ovary is a solid, ovoid structure about the size and shape of an almond, about 3.5 cm in length, 2 cm wide, and 1 cm thick. The ovaries are located in shallow depressions, called ovarian fossae, one on each side of the uterus, in the lateral walls of the pelvic cavity. They are held loosely in place by peritoneal ligaments.

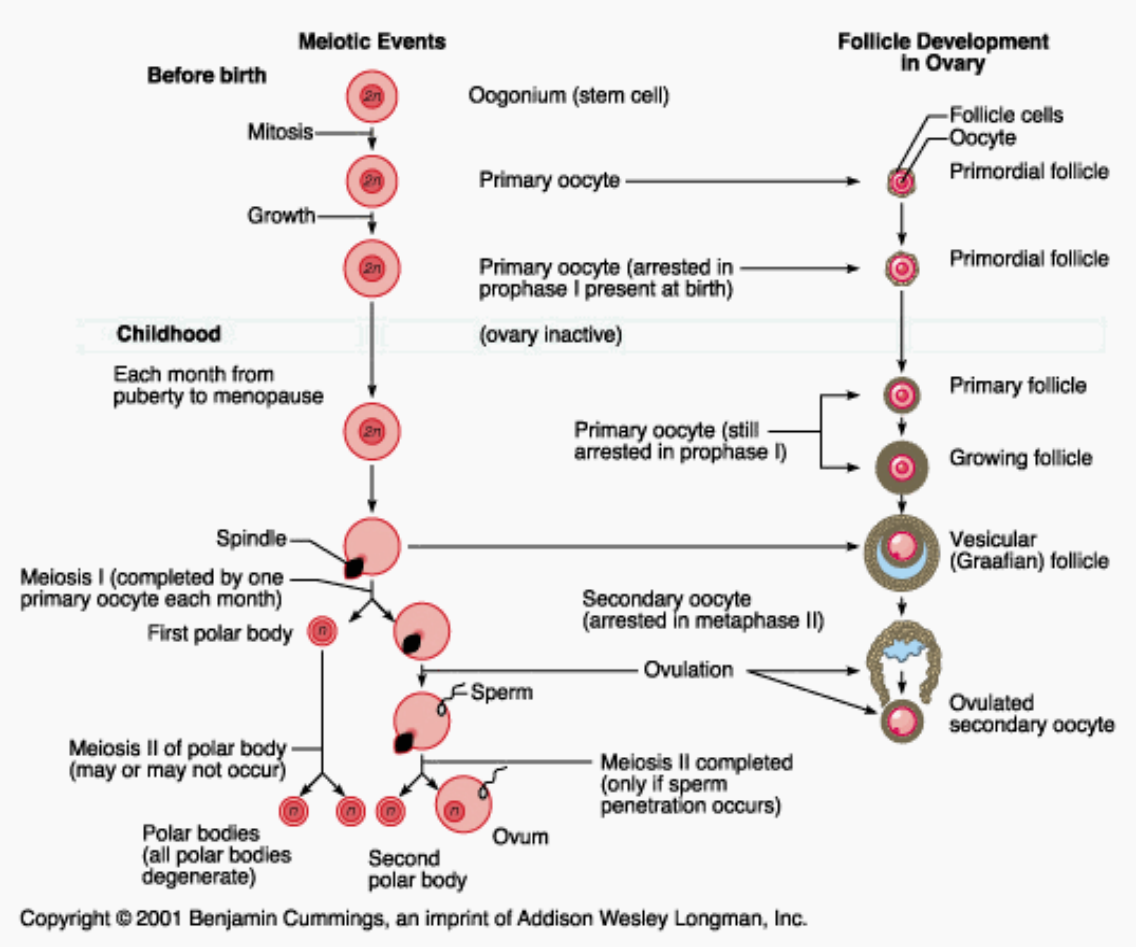
Structure

The ovaries are covered on the outside by a layer of simple cuboidal epithelium called germinal (ovarian) epithelium. This is actually the visceral peritoneum that envelops the ovaries. Underneath this layer there is a dense connective tissue capsule, the

tunica albuginea. The substance of the ovaries is distinctly divided into an outer cortex and an inner medulla. The cortex appears more dense and granular due to the presence of numerous ovarian follicles in various stages of development. Each of the follicles contains an oocyte, a female germ cell. The medulla is loose connective tissue with abundant blood vessels, lymphatic vessels, and nerve fibers.

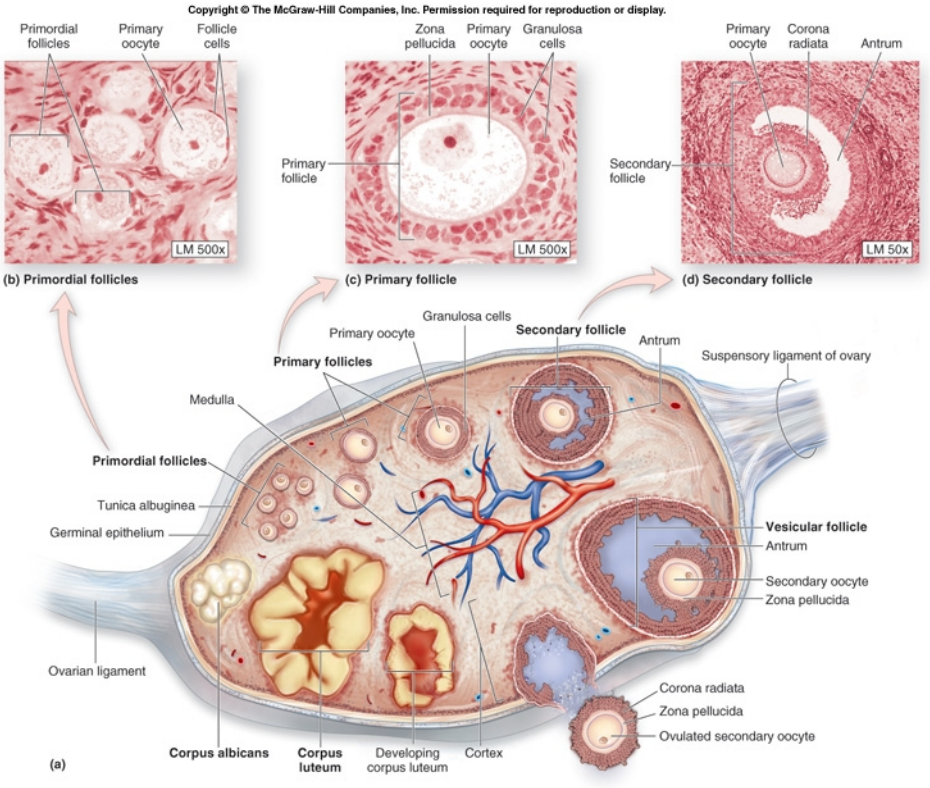
Oogenesis

Female sex cells, or gametes, develop in the ovaries by a form of meiosis called oogenesis. The sequence of events in oogenesis is similar to the sequence in spermatogenesis, but the timing and final result are different. Early in fetal development, primitive germ cells in the ovaries differentiate into oogonia. These divide rapidly to form thousands of cells, still called oogonia, which have a full complement of 46 (23 pairs) chromosomes. Oogonia then enter a growth phase, enlarge, and become primary oocytes. The diploid (46 chromosomes) primary oocytes replicate their DNA and begin the first meiotic division, but the process stops in prophase and the cells remain in this suspended state until puberty. Many of the primary oocytes degenerate before birth, but even with this decline, the two ovaries together contain approximately 700,000 oocytes at birth. This is the lifetime supply, and no more will develop. This is quite different than the male in which spermatogonia and primary spermatocytes continue to be produced throughout the reproductive lifetime. By puberty the number of primary oocytes has further declined to about 400,000.



Beginning at puberty, under the influence of follicle-stimulating hormone, several primary oocytes start to grow again each month. One of the primary oocytes seems to outgrow the others and it resumes meiosis I. The other cells degenerate. The large cell undergoes an unequal division so that nearly all the cytoplasm, organelles, and half the chromosomes go to one cell, which becomes a secondary oocyte. The remaining half of the chromosomes go to a smaller cell called the first polar body. The secondary oocyte begins the second meiotic division, but the process stops in metaphase. At this point ovulation occurs. If fertilization occurs, meiosis II continues. Again this is an unequal division with all of the cytoplasm going to the ovum, which has 23 single-

stranded chromosome. The smaller cell from this division is a second polar body. The first polar body also usually divides in meiosis I to produce two even smaller polar bodies. If fertilization does not occur, the second meiotic division is never completed and the secondary oocyte degenerates. Here again there are obvious differences between the male and female. In spermatogenesis, four functional sperm develop from each primary spermatocyte. In oogenesis, only one functional fertilizable cell develops from a primary oocyte. The other three cells are polar bodies and they degenerate.



Ovarian Follicle Development

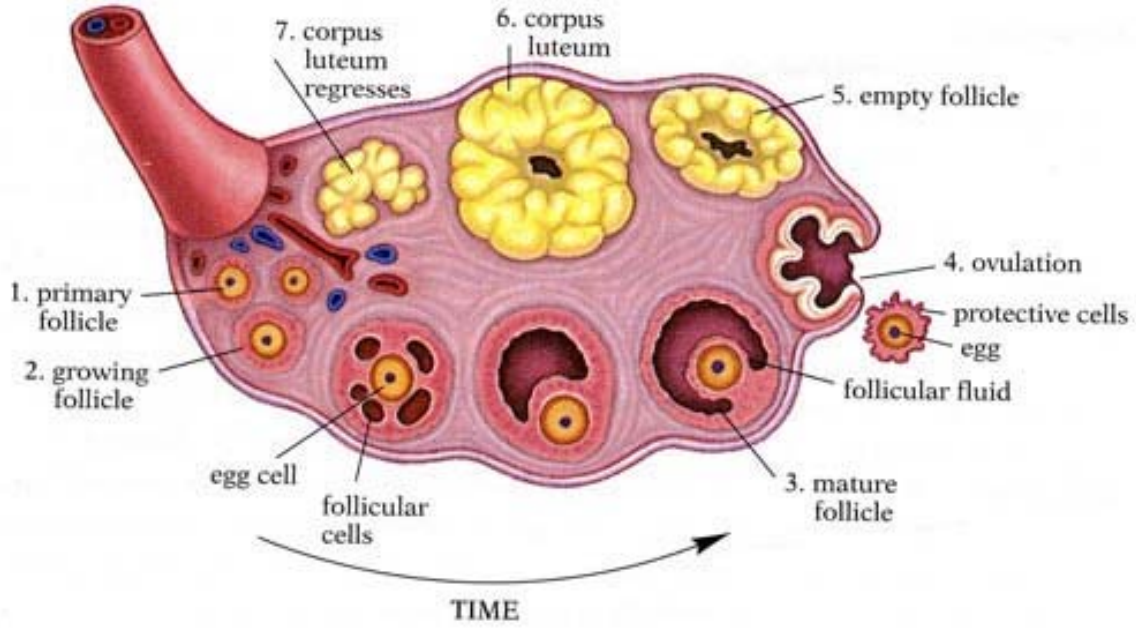
An ovarian follicle consists of a developing oocyte surrounded by one or more layers of cells called follicular cells. At the same time that the oocyte is progressing through meiosis, corresponding changes are taking place in the follicular cells. Primordial follicles, which consist of a primary oocyte surrounded by a single layer of flattened

cells, develop in the fetus and are the stage that is present in the ovaries at birth and throughout childhood.

Beginning at puberty follicle-stimulating hormone stimulates changes in the primordial follicles. The follicular cells become cuboidal, the primary oocyte enlarges, and it is now a primary follicle. The follicles continue to grow under the influence of follicle-stimulating hormone, and the follicular cells proliferate to form several layers of granulose cells around the primary oocyte. Most of these primary follicles degenerate along with the primary oocytes within them, but usually one continues to develop each month. The granulosa cells start secreting estrogen and a cavity, or antrum, forms within the follicle. When the antrum starts to develop, the follicle becomes a secondary follicle. The granulose cells also secrete a glycoprotein substance that forms a clear membrane, the zona pellucida, around the oocyte. After about 10 days of growth the follicle is a mature vesicular (graafian) follicle, which forms a "blister" on the surface of the ovary and contains a secondary oocyte ready for ovulation.

Ovulation

Ovulation, prompted by luteinizing hormone from the anterior pituitary, occurs when the mature follicle at the surface of the ovary ruptures and releases the secondary oocyte into the peritoneal cavity. The ovulated secondary oocyte, ready for fertilization is still surrounded by the zona pellucida and a few layers of cells called the corona radiata. If it is not fertilized, the secondary oocyte degenerates in a couple of days. If a sperm passes through the corona radiata and zona pellucida and enters the cytoplasm of the secondary oocyte, the second meiotic division resumes to form a polar body and a mature ovum



After ovulation and in response to luteinizing hormone, the portion of the follicle that remains in the ovary enlarges and is transformed into a corpus luteum. The corpus luteum is a glandular structure that secretes progesterone and some estrogens. Its fate depends on whether fertilization occurs. If fertilization does not take place, the corpus luteum remains functional for about 10 days then it begins to degenerate into a corpus albicans, which is primarily scar tissue, and its hormone output ceases. If fertilization occurs, the corpus luteum persists and continues its hormone functions until the placenta develops sufficiently to secrete the necessary hormones. Again, the corpus luteum ultimately degenerates into corpus albicans, but it remains functional for a longer period of time.

Reproductive cycle

An 'ovarian cycle' occurs in a woman at the same time as the menstrual cycle. The term 'menstrual cycle' refers specifically to the changes that occur in the uterus,

whereas the term 'ovarian cycle' refers specifically to the changes that occur in the ovaries. To ensure that follicular growth and ovulation (ovarian cycle) are synchronised with uterine preparation (menstrual cycle) for possible embryonic implantation, the two cycles are coordinated together by five hormones. This forms the 'reproductive cycle'.

The hormones involved are the following:

- **Gonadotropin-releasing hormone (GnRH)** secreted from the hypothalamus
- **Follicle-stimulating hormone** (FSH (a gonadotropin)) secreted from the anterior pituitary gland
- **Luteinizing hormone** (LH (a gonadotropin)) secreted from the anterior pituitary gland.
- **Oestrogens** (closely related family of female sex hormones) secreted by the ovaries.
- **Progesterone** (female sex hormone) secreted by the ovaries.

The Menstural cycle

The menstrual cycle consists of three phases:

- The **menstrual flow phase** commences at Day 1 and continues for these first few days, thus the thickened endometrium is lost.
- This is then followed by the **proliferative phase**, whereby the endometrium is gradually built up again.
- The **secretory phase** follows over the course of the next fourteen days. Here, the endometrium continues to thicken and become

more vascularized as well as developing glands which secrete a glycogen-rich fluid.

At this stage, there are two possibilities. If the embryo has implanted itself into the uterine lining, pregnancy will ensue. If it has not, the cycle has ended and another will begin.

The Ovarian cycle

The Ovarian cycle also consists of three phases:

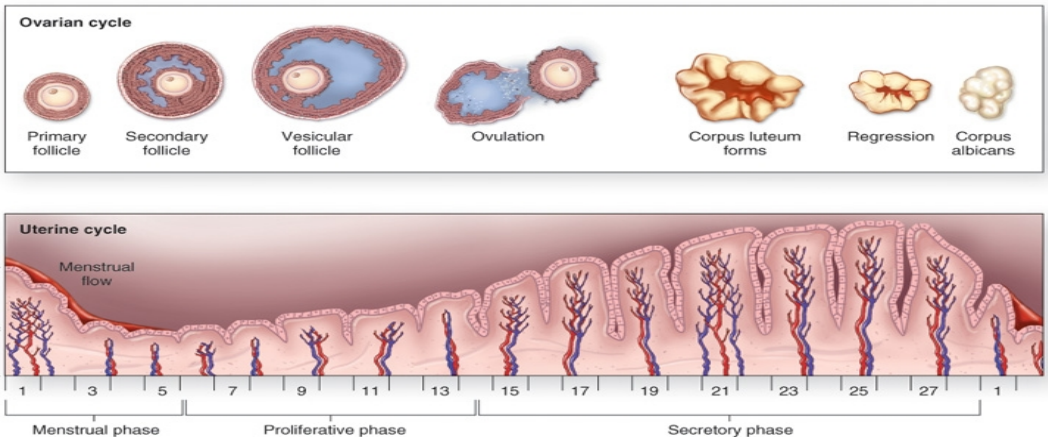
- During the follicular phase several follicles in the ovary begin to grow. The egg cell enlarges and the coat of follicle cells becomes multilayered.

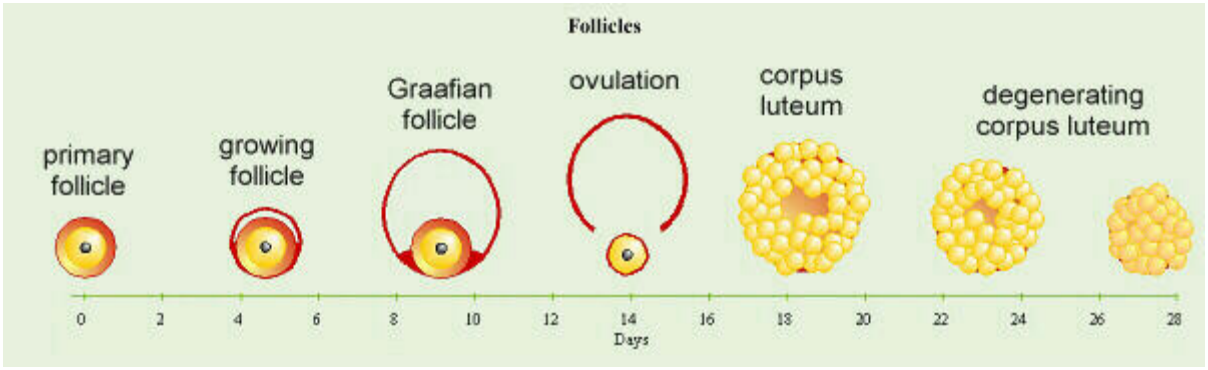
  One of these follicles goes on to enlarge and mature further whilst the others disintegrate. The maturing follicle develops an internal fluid-filled cavity and grows very large, forming a bulge near the surface of the ovary.
- Ovulation then occurs.

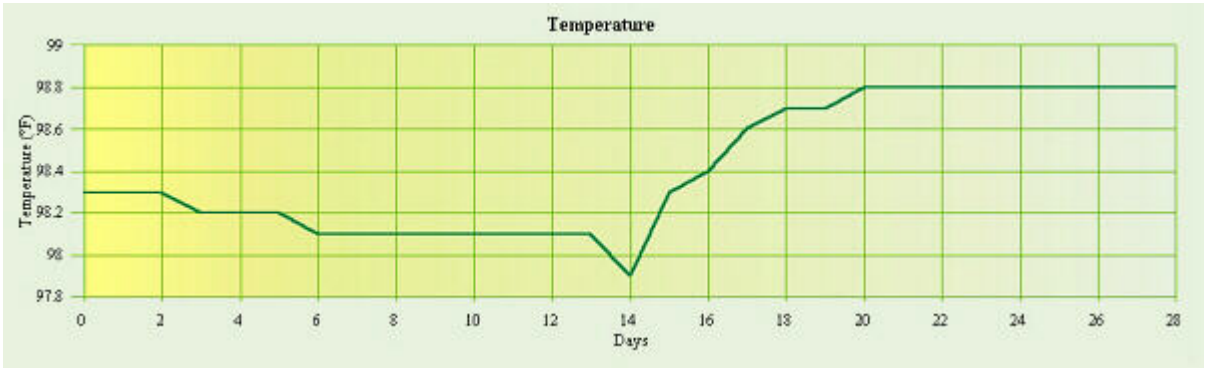
  The ovulatory phase is where the follicle and the adjacent wall of the ovary rupture resulting in the egg cell's release from the ovary.

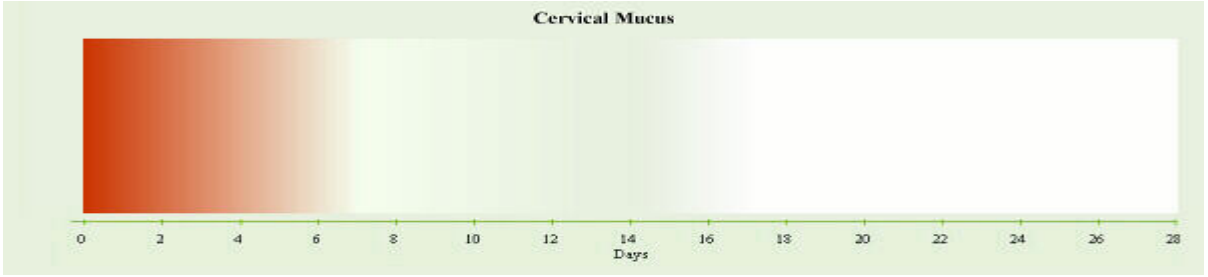
  The follicular remains in the ovary are transformed into an endocrine tissue called the 'corpus luteum'.
- The luteal phase follows whereby the corpus luteum secretes oestrogen and progesterone.

  The cycle then recommences unless pregnancy has ensued.









Cycles and Hormones Relationship.

STAGE 1

The reproductive cycle begins with the menstrual flow phase of the menstrual cycle. This coincides with the follicular phase of the ovarian cycle which, in turn, marks the beginning of the proliferative phase of the menstrual cycle.

- Levels of Oestrogen and Progesterone are low as pregnancy has not occurred. This causes the arteries in the uterine lining to spasm, thus the endometrium is deprived of blood. Disintegration of the endometrium results in menstruation.
- This low steroid hormone level results in a decline in their inhibitory effect on GnRH accompanies newly developing follicles in the ovaries
- GnRH is secreted from the hypothalamus.
- This, in turn, stimulates the anterior pituitary to secrete small amounts of FSH and LH .
- There are only FSH specific receptors on cells of the immature ovarian follicles in the ovaries at this stage; FSH acts on these receptors by stimulating follicular growth.
- As these follicles begin to grow, their cells secrete a small amount of Oestrogen which inhibits further FSH and LH secretion during the rest of the follicular phase.
- It also stimulates endothelial thickening (proliferation) in the uterus.

- The uterus is thus prepared for a possible implanting embryo prior to ovulation.

STAGE 2

The ovulatory phase of the ovarian cycle now occurs.

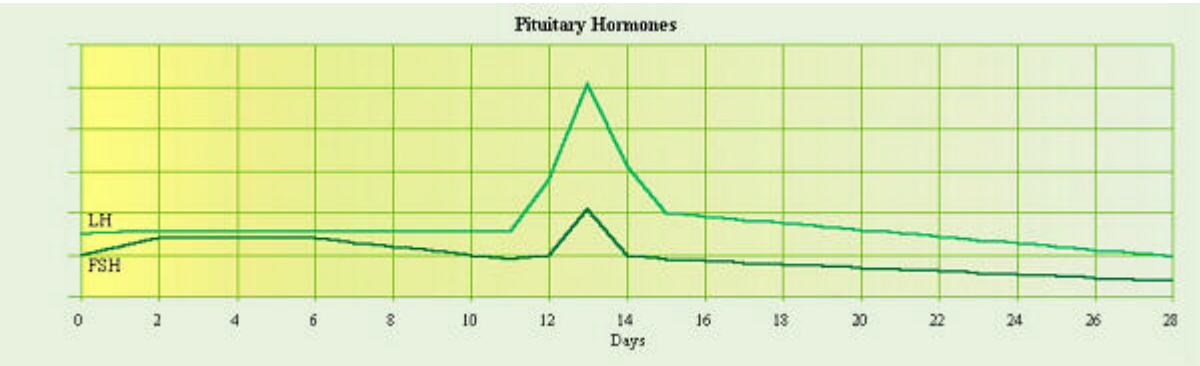
- At a certain point of growth the follicle's secretion of Oestrogen suddenly rises steeply resulting in the stimulation of the hypothalamus to secrete GnRH and thus the subsequent release of FSH and LH.
- Increased sensitivity of LH releasing mechanisms in the pituitary to GnRH, thus there is a more dramatic release of LH than FSH.
- The follicles have now developed LH specific receptors.
- This LH increase induces the final maturation of the follicle and ovulation follows a day after the LH surge.

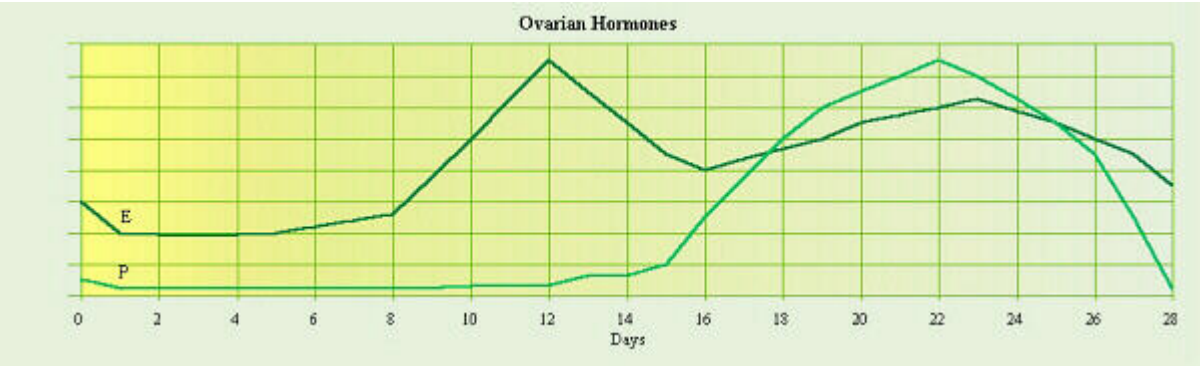
STAGE 3

The luteal phase of the ovarian cycle, coordinated with the secretory phase of the menstrual cycle follows.

- Following ovulation, high LH levels also stimulate the follicular tissue's development into a 'corpus luteum', reaching its maximum development about 10 days after ovulation. (LH is named after this luteinising function).
- LH stimulates the corpus luteum to secrete Oestrogen and Progesterone.

- These hormones stimulate continued endometrial maintenance by means of enlarging arteries supplying blood to the uterine lining and enabling the growth of endometrial glands that secrete an embryonic sustaining nutrient fluid before it implants in the lining itself.
- The rising levels of Oestrogen and Progesterone also inhibit the hypothalamic and pituitary hormone release.
- When LH levels become too low, however, the corpus luteum disintegrates. Thus, if pregnancy has not ensued, Oestrogen and Progesterone levels fall.





Female Reproduction

1). Fetus

Fetal cortical (outer) region of the ovaries

↓

primordial follicle (primary follicles) with primary oocytes

↓

Meiosis I begins: (duplication & crossing over occur)

↓

Meiosis I stops

↓

2). Childhood

↓

3). Puberty

↓

Primary oocyte continues the last stages of meiosis.

Meiosis results in a small polar body and a secondary oocyte

Ovulation occurs

The secondary oocyte is ovulated and follicle undergoes changes

(it has not completed meiosis)

↓

4). If fertilization occurs

If it is fertilized Meiosis II will continue.

The secondary oocyte will under go Meiosis II before the chromosomes of the male can join to the chromosomes of the female.

↓

The result will be an ovum and a polar body.

↓

The ovum can than be fertilized.

Polar bodies only contain DNA the secondary oocyte maintains all of the cytoplasm and organelles

Ovarian Cycle

Ovarian cycle:

average 28 days.

Several follicles will start this process at the same time.

Stage

Follicular phase: Day 1 to 14

primordial follicle → primary follicle

primary follicle → secondary follicle

Theca follici develop granulosa cells and theca follici produce estrogen

Zona pellucida forms secondary follicle → vesticular follicle

bulges from the ovary

The primary oocyte finishes meiosis I (that was started as a fetus) and it becomes the secondary oocyte with a polar body.

Ovulation:

Day 14

Luteal phase:

Day 14 to 28.

Corpus luteum acts as an endocrine gland producing:

Progesterone and estrogen

Uterine Cycle

Changes that the endometrium undergoes

Uterine (Menstrual) Cycle

Wall of the uterus

Endometrium: inner

Myometrium: middle

Perimetrium: outer

Stages

Menstrual phase (Days 1-5)

Proliferative phase (Days 6-14)

Secretory Phase (Days 15-28)

Hormonal Control of Female Reproduction

Starting on Day 1:

Uterine wall detaches:

Estrogen at lowest level but:

Hypothalamus:

↑GnRH

Anterior Pituitary:

↑ FSH ↑ LH

Ovary responds

↑Follicle growth

Day 5

Ovary

↑ Estrogen

Day 6-14

Uterus: generating new basal layer.

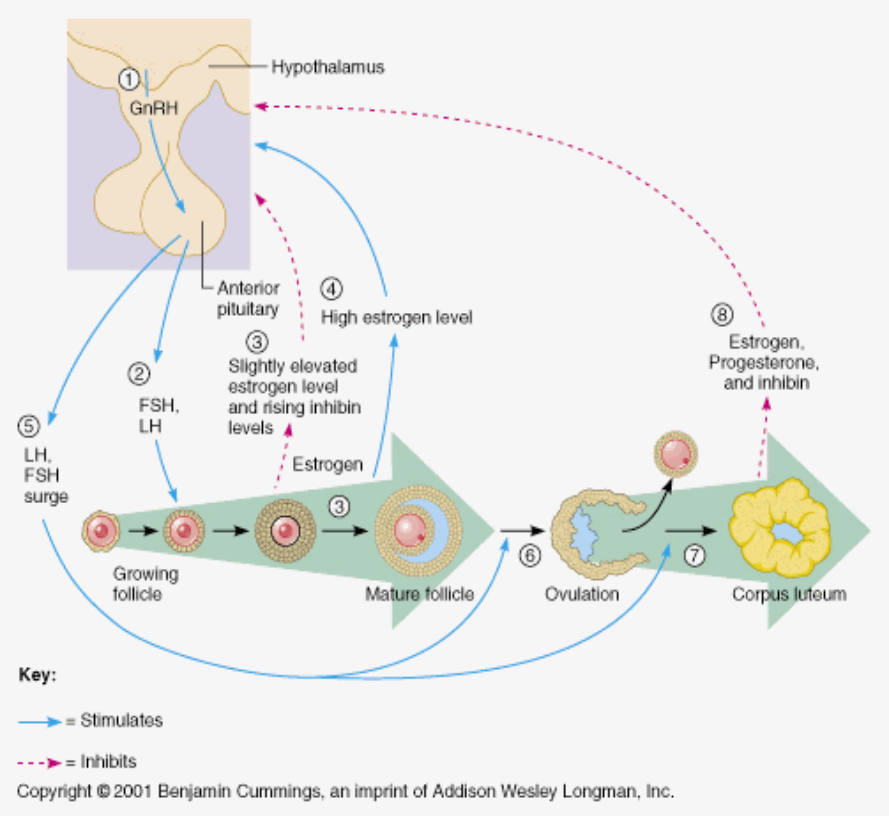
Ovary: Follicle is continues to grow

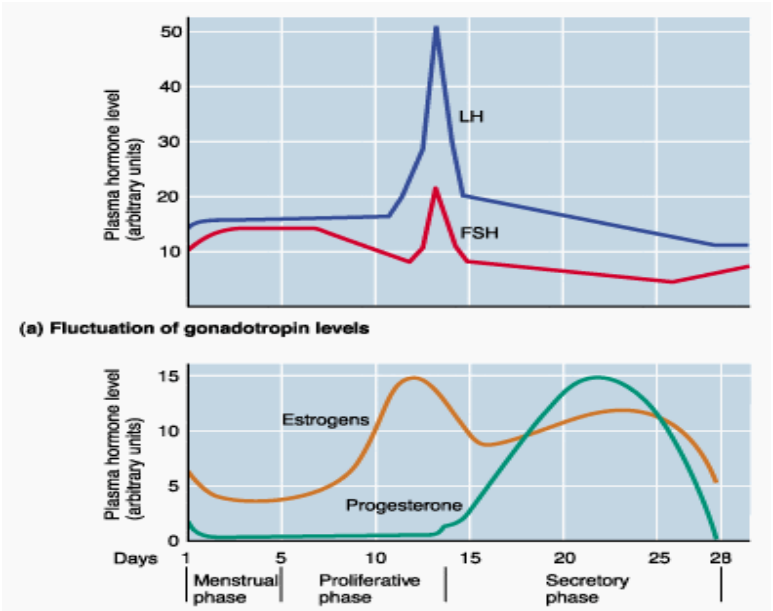
↑ Estrogen & ↑ Inhibin

Anterior Pituitary responds by

↓ FSH & ↓ LH release but

↑ synthesis & storage of FSH & LH





(a) Fluctuation of gonadotropin levels

(b) Fluctuation of ovarian hormone levels

Day 14 (ovulation)

↑ High estrogen in the blood reach a critical level overriding any effect that inhibin has.

Anterior Pituitary ↑ FSH & ↑ LH (releasing the built up supply)

Ovary completes first meiotic division.

↑ LH level results in ovulation

Day 14 to Day 28

↑ LH creates corpus luteum

***Corpus luteum* :** ↑ Estrogen ↑ Progesterone

Uterus enters secretory phase

↑ Estrogen ↑ Progesterone negatively feedbacks ↓ LH & ↓FSH

↓ LH causes ↓ corpus luteum & ↓estrogen & ↓ progesterone ↓

endometrium sloughs off

↓ Estrogen takes the block off LH & FSH.

The cycle starts again.

2. POLY CYSTIC OVARIAN DISEASE.

Background

In 1935 Stein and Leventhal were first to recognize an association between the presence of polycystic ovaries and signs of hirsutism and amenorrhea (eg, oligomenorrhea, obesity). Patients diagnosed with Stein-Leventhal syndrome underwent successful wedge resection of the ovaries, their menstrual cycles became regular, and they were able to conceive. As a consequence, a primary ovarian defect was thought to be the main culprit, and the disorder came to be known as polycystic ovarian disease. Further biochemical, clinical, and endocrinologic studies revealed an array of underlying abnormalities; hence, the condition is now referred to as polycystic ovary syndrome (PCOS), though it may occur in patients without ovarian cysts.

Frequency

PCOS is one of the most common endocrine disorders of patient in the reproductive age group, with a prevalence of 4-12%. About one in five patient have PCOS, and generally they present no problems.

Age

PCOS affects mostly patients of reproductive age.

Alternate names:

Stein-Leventhal Syndrome, Hyperandrogenic Chronic Anovulation, solcrocystic ovarian disease, polycystic ovaries, polycystic ovarian disease (PCOD), polycystic ovarian syndrome(PCOS).

Definition:

Patients suffering from polycystic ovarian disease (PCOD) have multiple small cysts in their ovaries (the word poly means many). These cysts occur when the regular changes of a normal menstrual cycle are disrupted. The ovary is enlarged; and produces excessive amounts of androgen and estrogenic hormones. This excess, along with the absence of ovulation, may cause infertility.

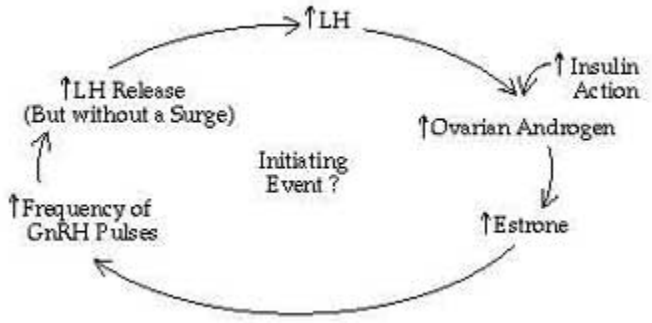
On the scan a polycystic ovary is larger than normal with a ring of many cysts around the edge. The cysts are follicles, some are immature but contain an egg, and others are empty. A polycystic ovary contains at least ten cysts just below the surface, and although each cyst only measures between two and eight millimetres, together they make the ovary enlarged. The covering of the ovary (the capsule) thickens, which makes release of the egg difficult.

Causes:

Although the cause of PCO is not fully understood, there are a few theories suggesting that problems with estrogen production and hypothalamic-ovarian feedback may be responsible. Ovarian function will not proceed normally under reduced amounts of pituitary hormones, however, an increase in the amount of follicle-stimulating hormone (FSH) which is one of the hormones normally produced by the pituitary gland, is frequently successful in stimulating the underdeveloped ova to mature and be released from the ovary.

PCOD has a significant hereditary component, and is often transmitted from mother to daughter. Polycystic ovary emerges when a state of anovulation persists for a length of time. Patients with PCO have persistently elevated levels of androgens and

estrogens, which set up a vicious cycle. Obesity can aggravate PCOD because fatty tissues are hormonally active and they produce estrogen which disrupts ovulation. Overactive adrenal glands can also produce excess androgens, and these may also contribute to PCOD. These patients also have insulin resistance (high levels of insulin in their blood, because their cells do not respond normally to insulin).



The self-perpetuating vicious cycle of elevated levels of androgens and estrogens in PCOD

Occult PCOD

Occult PCOD means the patients with thin built, regular periods, no hirsutism and normal looking ovaries on ultrasound, but still have PCOD. This problem is detected only when these patients are super ovulated, at which time they over-respond by producing a large number of follicles.

Interestingly, many of these patients present with recurrent pregnancy loss (recurrent miscarriages) , and often their doctor does not make the correct diagnosis for them

Pathophysiology

Patients with PCOS have abnormalities in the metabolism of androgens and estrogen and in the control of androgen production. High serum concentrations of

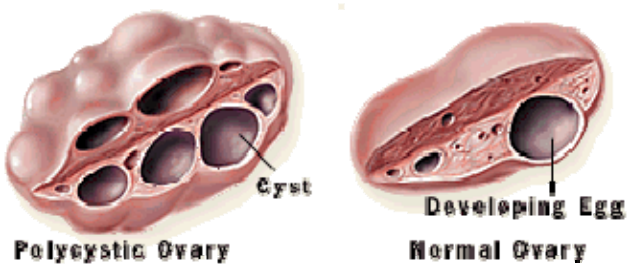
androgenic hormones, such as testosterone, androstenedione, and dehydroepiandrosterone sulfate (DHEA-S), may be encountered in these patients. However, individual variation is considerable, and particular patients might have normal androgen levels.

PCOS is also associated with peripheral insulin resistance and hyperinsulinemia, and obesity amplifies the degree of both abnormalities. Insulin resistance in PCOS can be secondary to a post binding defect in insulin receptor signaling pathways, and elevated insulin levels may have gonadotropin-augmenting effects on ovarian function.

A proposed mechanism for anovulation and elevated androgen levels suggests that, under the increased stimulatory effect of luteinizing hormone (LH) secreted by the anterior pituitary, stimulation of the ovarian theca cells is increased. In turn, these cells increase the production of androgens (eg, testosterone, androstenedione). Because of a decreased level of follicle-stimulating hormone (FSH) relative to LH, the ovarian granulosa cells cannot aromatize the androgens to estrogens, and this inability leads to decreased estrogen levels and consequent anovulation. Growth hormone (GH) and insulin-like growth factor-1 (IGF-1) may also augmenting effect on ovarian function.

Hyperinsulinemia is also responsible for dyslipidemia and for elevated levels of plasminogen activator inhibitor-1 (PAI-1) in patients with PCOS. An elevated PAI-1 level is a risk factor for intravascular thrombosis.

Polycystic ovaries are enlarged bilaterally and have a smooth thickened capsule that is avascular. On cut sections, subcapsular follicles in various stages of atresia are seen in the peripheral part of the ovary. The most striking ovarian feature of PCOS is hyperplasia of the theca stromal cells surrounding arrested follicles. On microscopic examination, luteinized theca cells are seen.



A schematic, comparing a polycystic ovary with a normal ovary.

Clinical Features

Menstrual periods, abnormal, irregular, or oligomenorrhea, amenorrhea, usually (but not always) after having one or more normal menstrual periods during puberty (secondary amenorrhea), obesity, infertility, increased hair growth (hirsutism), aggravation of acne, unusual growth and distribution of body hair in a male, pattern (virilization)

Polycystic ovarian disease (PCOD) is currently considered as possibly the most frequent cause of female infertility. It is also closely associated with syndrome XX, which, in turn, is closely linked with premature and excessive mortality

Irregular or absent periods

Nine or fewer menstrual cycles per year may be a sign of PCOS. Bleeding may be heavier than normal. Most patients with PCOS do not ovulate because their follicles never ripen enough to reach the ovary's surface and burst. Some patients ovulate occasionally. So they don't have any periods, or they may be very irregular and scanty. Patients with PCOS may start their periods late and they may

also always have irregular cycles. On the other hand some patients may have heavy irregular bleeding because of the poor hormone control. The menstrual irregularities in PCOS usually manifest around the time of menarche

Infertility

PCOS patients will only be ovulating occasionally or not at all, so getting pregnant without treatment may be difficult or impossible. Many patients do not go to their doctors with irregular periods until they start trying to have a baby. patients with PCOS may have fewer children than they had planned

Hirsutism

Hirsutism means excess hair, which can be a difficult symptom for many patients. Many patients with PCOS experience unwanted hair on their face, chest, abdomen, arms and legs. Hair growth might be quite thick and noticeable, especially if patients have dark hair. Some patients also notice a slight thinning of their head hair.

For most patients with PCOS, hair in the mustache and beard areas becomes heavier and darker. This symptom is caused by high levels of male hormones (androgens), as are thinning hair and acne.

Thinning hair

Just as heavier hair growth is possible, scalp hair thinning may be present. This is caused by higher levels of androgens.

Acne

Acne (pimples and oily skin) can also bother patients with PCOS. The acne is usually found around the face (especially along the jaw line), chest, and

back. Many patients who go to their doctor with adult acne find they have polycystic ovaries.

Weight gain

Obesity is present in nearly half of all patients with PCOS. Many patients with PCOS gain weight around their middles taking on an apple shape rather than a pear shape. Such weight gain is linked with problems with the proper use of glucose and insulin in the body. If patients put on a lot of weight, then they may be at increased risk of developing heart disease, high blood pressure or diabetes later in life.

Other skin problems

Skin tags, thick lumps of skin can form and usually are found in the armpits or neck. These can easily be removed. Darkening and thickening of the skin also can occur around the neck, groin, underarms, or skin folds. This condition, called acanthosis nigricans, is a sign of an insulin abnormality.

Acanthosis nigricans

Depression and anxiety

Because of the nature of many of these symptoms, patients may find themselves more anxious or depressed by their appearance, or by their inability to become pregnant.

Miscarriage

There may be an increased risk of miscarriage for patients who do become pregnant.

Pelvic discomfort

Some patients with PCOS feel occasional discomfort in their abdomen.

Diabetes mellitus

Approximately 10% of patients with PCOS have type 2 diabetes mellitus, and 30-40% of patients with PCOS have impaired glucose tolerance by the age of 40 years.

A few patients may also have increased muscle mass, deepening voice, and/or clitoromegaly due to excessive androgens.

Sleep apnea:

Many patients with PCOS have obstructive sleep apnea syndrome. These patients have excessive daytime somnolence and have apnea/hypopnea episodes during sleep.

Complications

PCOS may put patients at risk for diabetes, heart disease, and cancer of the uterus.

Cardiovascular and cerebrovascular disease:

Evidence suggests that these patients might be at increased for cardiovascular disease and cerebrovascular disease. Patients with high insulin levels, as in PCOS, often have low levels of HDL cholesterol and high levels of other fats, including triglycerides. These factors are known to increase the risk of heart attack or stroke later in life. Patients with PCOS also can have elevated bad cholesterol (LDL) levels.

Type 2 diabetes mellitus:

Patients with PCOS have an increased risk of developing diabetes mellitus. Patients who are obese should be screened for glucose intolerance with OGTT.

Endometrial carcinoma:

Patients with PCOS are at an increased risk for endometrial hyperplasia and carcinoma. The chronic anovulation in PCOS leads to constant endometrial stimulation with estrogen and without progesterone and increases the risk of endometrial hyperplasia and carcinoma.

Differential diagnosis

Acromegaly

Cushing Syndrome

Hyperprolactinemia

Hypothyroidism

Other Problems to be considered

Ovarian hyperthecosis

Congenital adrenal hyperplasia (late-onset)

Androgen-producing tumors of the ovary and adrenals

Drugs (eg, danazol, androgenic progestins)

Ovarian cysts

An ovarian cyst is a growth or swelling on, or inside, the ovary. It may be solid, or filled with fluid. Cysts may grow inside the ovary or they may be attached by a stem to the outside. (The stem is sometimes called a pedicle).

Types of ovarian cysts

Functional cysts

These are the most common type of cysts. They occur as a variation of the normal function of the ovaries.

During patients monthly cycle one of the follicles may not release its egg or it may not shrink after ovulation. The follicle enlarges and fills with fluid. Follicular cysts can last for four to six weeks and grow to 5 to 6 cm in diameter. They usually go away by themselves.

A less common type of functional cyst can form in the corpus luteum. Corpus luteum cysts form when the corpus luteum fills with fluid instead of breaking down as it should. Corpus luteum cysts can become larger than follicular cysts and so may cause pelvic discomfort. Usually corpus luteum cysts go away over two or three menstrual cycles, but occasionally bleeding in the cyst can cause a strong abdominal pain similar to that of an ectopic pregnancy.

Dermoid cysts

Dermoid cysts originate in the ovarian cells that form into different tissues as the fertilized egg develops. These cysts can grow quite large up to 15 cm in diameter and may contain hair, bone, teeth and cartilage. In about 12% of cases dermoid cysts may be present on both ovaries. Large cysts are more prone to torsion, where the cyst twists on its stem, cutting off the blood supply and causing intense pain.

Serous and mucinous cystadenomas

These can grow to be very big and heavy, and may even weigh several stone. Serous cystadenomas are filled with a watery liquid, and the mucinous ones with a thicker sticky fluid. Both types often grow outside the ovary, attached by stems. They are not always benign and should be removed as quickly as possible.

Endometriomas

Up to 60% of patients with endometriosis have endometriomas. These are cysts lined with endometrial cells similar to those lining the womb. These cells bleed during menstruation. The old blood in the cyst gives them a 'chocolate' appearance.

Solid Ovarian Tumours

Functional tumours (Ovarian stromal tumours)

Functional tumours are completely different and much rarer than functional cysts. They are called either masculinising or feminising because they produce either male or female hormones. Masculinising

tumours tend to occur in patients in their 20s and 30s. Feminising tumours can occur at any age, even before puberty. They are usually benign, but need to be removed surgically because of the small risk that they are not benign.

Fibromas

These ovarian cysts are usually solid although they sometimes have fluid parts and may contain some bone. In some patients they produce oestrogen.

Brenner tumours

These are rare, solid ovarian cysts that are most commonly found in patients over 40. They are usually quite small and always benign.

Investigation

Blood tests.

Estriol – serum

Elevated LH levels (serum LH >10 IU/l).

Low or normal FSH levels (if they are normal, they are still probably below the threshold level required for normal follicle development).

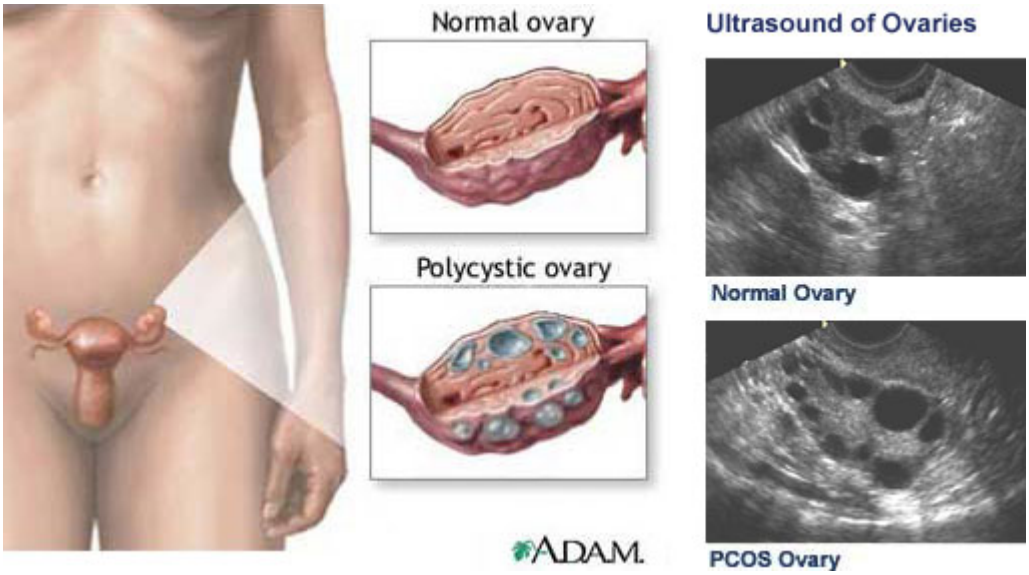
Elevated LH/FSH ratio (>2:1 or 3:1).

Elevated androgens/testosterone.

Urine tests.

17-ketosteriods (may be elevated)

Estriol - urine



Ultra sonogram

This diagnosis can be confirmed by vaginal ultrasound, which shows that both the ovaries are enlarged; the bright central stroma is increased ; Polycystic ovaries are defined as 12 or more follicles in at least 1 ovary measuring 2-9 mm in diameter or a total ovarian volume of >10 cm3. These cysts are usually arranged in the form of a necklace along the periphery of the ovary and resembling a "pearl necklace".

Laparoscopy

Ovarian biopsy

Treatment in modern medicine

Medications used to treat the symptoms of Stein-Leventhal include oral contraceptives, Metformine, Testolactone, and Clomiphene Citrate (chlomid).

Treatment with Clomiphene induces the pituitary gland to produce more FSH which in turn stimulates maturity and release of the ova.

A "wedge resection" of the ovaries may be used to remove cysts and still allow contraception (since ova don't mature)

Finally, weight reduction, which may be very difficult, is very important. Maintaining general good health and eliminating the complications of obesity is essential. Increasing physical activity is an important step in losing weight. Aerobic activities such as walking, jogging or swimming are advised.

Adverse effect of Modern treatment

Clomiphene may cause side effects. They are, flushing (feeling of warmth), stomach upset, vomiting, heaviness of the breast, headache, abnormal vaginal bleeding.

Some side effects may be serious; they are blurred vision, visual spots or flashes, double vision, abdominal pain, weight gain, shortness of breath.

Long-term use of clomiphene may increase the risk of ovarian cancer. Clomiphene should not be used for more than about six cycles.

Management of PCOD

Monitoring the health is important. Obese patients with PCOS should have at least one oral glucose tolerance test to check the risk of diabetes and also patient should check for blood pressure and LDL (bad) cholesterol, HDL (good) cholesterol, and triglyercide levels. This is especially important if the patients are obese.

The following changes can help to improve the body's response to extra insulin and help to reduce the risk of diabetes, heart disease, and stroke

Try to stay on a healthy diet with adequate amounts of protein.

Add whole grains, fruits, and vegetables to patients diet; and

Exercise regularly to keep patients weight in check.

MATERIALS AND METHODS

POPULATION & SAMPLE

The population consists of PCOD patients [Who show sympyoms of Garpaavayu and multiple cysts or enlarged ovary in their ultrasonogram (USG) report] satisfying the inclusion and exclusion criteria mentioned below.

The sample consists of PCOD patients attending the OPD of Ayothidoss Pandithar Hospital of the National Institute of Siddha, Chennai-47.

INCLUSION CRITERIA

1. Age 15 -45 years
2. Willing to attend IP/OP treatment
3. Willing to undergo purgation as a preparatory part of treatment.

EXCLUSION CRITERIA

1. Cardiac disease
2. Pregnancy and lactation
3. Hypertension
4. Peptic ulcer

WITHDRAWAL CRITERIA

During trial treatment, if the patient develops any of the following symptoms,

she will be withdrawn from the study.

1. Severe abdominal pain.

2. Heavy menorrhagia.

3. Any other acute illness.

TRIAL DRUG AND DURATION

Kalingadhi thylam – 15 ml in empty stomach for first three mornings from the starting day of menstruation along with neeragaram for 3 consecutive cycles.

Sengottai valladhi legium – 2 g twice a day for 48 days

Trial treatment period is 3 cycles.

SAMPLE SIZE

The trial size is 30 patients.

TESTS AND ASSESSMENT

(a) CLINICAL ASSESSMENT

Irregular menstruation, amenorrhea, oligomenorrhea, dysmenorrhea, infertility, spontaneous abortions, obesity, hirsuitism, constipation.

(b) ASSESSMENT BY INVESTIGATION

BLOOD

TC (cells / cu mm), DC (%), ESR (mm), Hb (g %),

Blood sugar (mg %).

URINE

Albumin, Sugar, Deposit, (Neerkuri, *Neikuri),*

ULTRASONOGRAM

Abdomen and Pelvis

(C) ASSESSMENT BY SIDDHA SYSTEM

Naadi. Sparisam, Naa, Niram ,Mozhi, Vizhi, Malam, Moothiram (Neer kuri and Nei kuri).

CONDUCT

Patients satisfying inclusion and exclusion criteria are selected for the study. Informed consent will be obtained from the patients.

The trial patients will be issued drugs for 15 days at a time. They will be instructed to come for next visit after 15 days. They will also be asked to bring back the unconsumed drug in their next visit and return the same.

FORMS

Form -1

Selection proforma – used before admission to the trial

Form -2

Assessment proforma – used during their visits once in 15 days

ANALYSIS

Paired t - test - before and after treatment meant for objective parameters.

Paired chi - squared test - before and after treatment proportionate for signs and symptoms.

OBSERVATION AND RESULTS

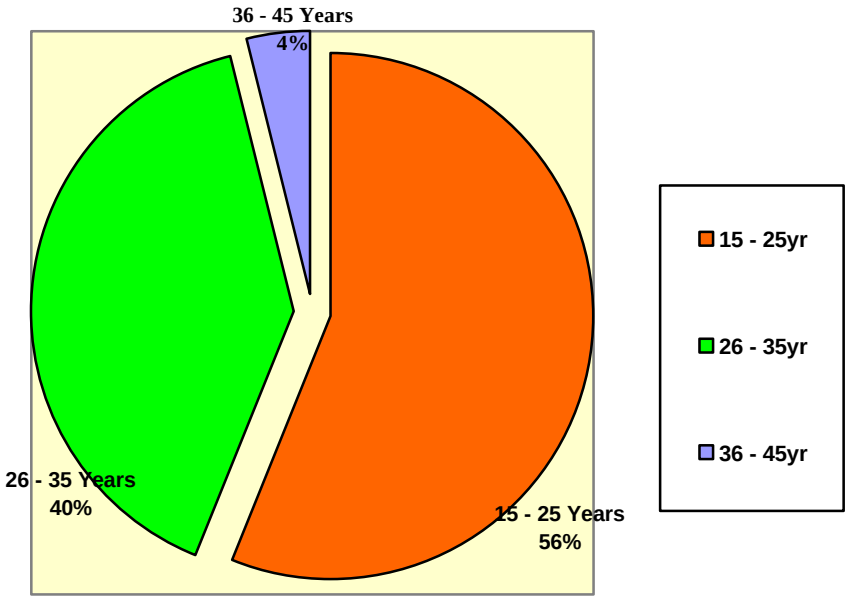
DISTRIBUTION OF CASES BY AGE

Table No: 1

Age Group	No of cases	Percentage
15 to 25	17	56
26 to 35	12	40
36 to 45	1	4
Total	**30**	**100**

Among the 30 cases of this study 56% of cases were in the age group between 15 to 25 yrs. 40% of cases were in the age group between 26 to 35yrs.

DISTRIBUTION OF CASES BY IMPROVEMENT

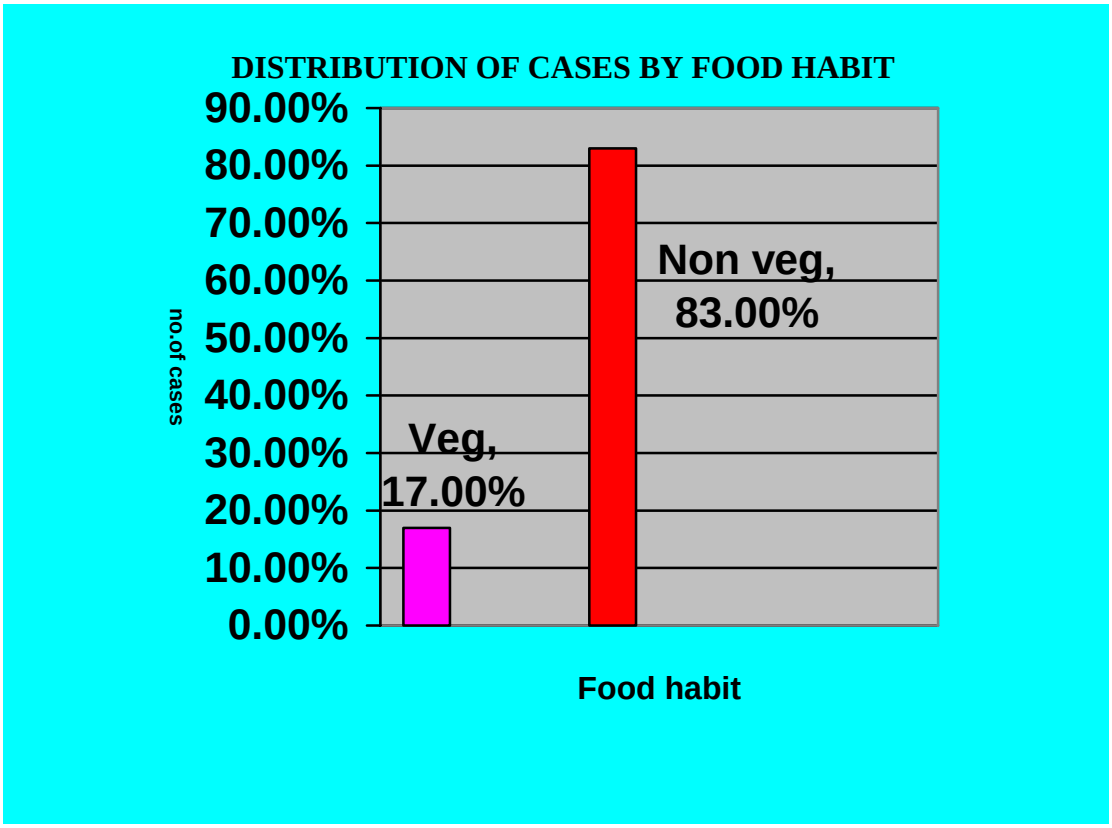


DISTRIBUTION OF CASES BY FOOD HABIT

Table No. 2

Food Habit	No. of. Cases (out of 30)	Percentage
Vegetarian	5	17
Non Vegetarian	25	83
Total	**30**	**100**

Out of 30 cases, 17% of cases were Vegetarian and 83% of cases were Non Vegetarian.



DISTRIBUTION OF CASES BY MARITAL STATUS

Table No : 3

Marital Status		**No. of. Cases (out of 30)**	**Percentage**
Married	Nulli para	10	33
	Multi paara	3	10
Unmarried		17	57

Out of 30 cases, 43% of cases were Married and 57% of cases were Unmarried.

In this 33% of cases are Nulli para and 10% were Multi para.

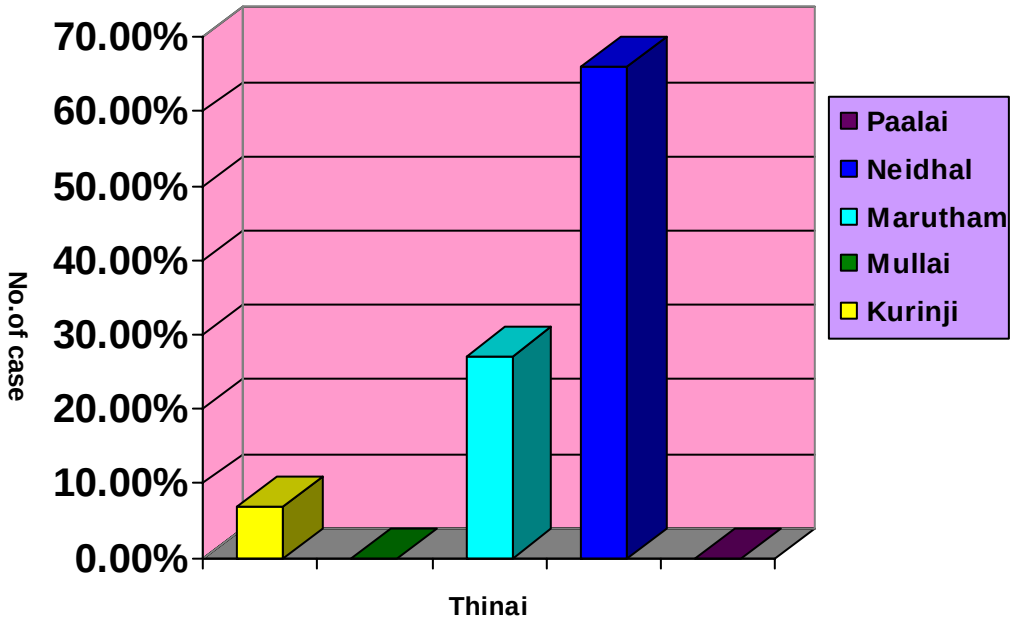
DISTRIBUTION OF CASES BY THINAI

Table No. 4

Thinai	**No. of. Cases affected**	**Percentage**
Kurinji	2	7
Mullai	0	0
Marutham	8	27
Neithal	20	66
Palai	0	0
Total	**30**	**100**

Out of 30 cases, 66% of cases were Neithal Thinai and 27% of cases were in Marutham.

DISTRIBUTION OF CASES BY THINAI



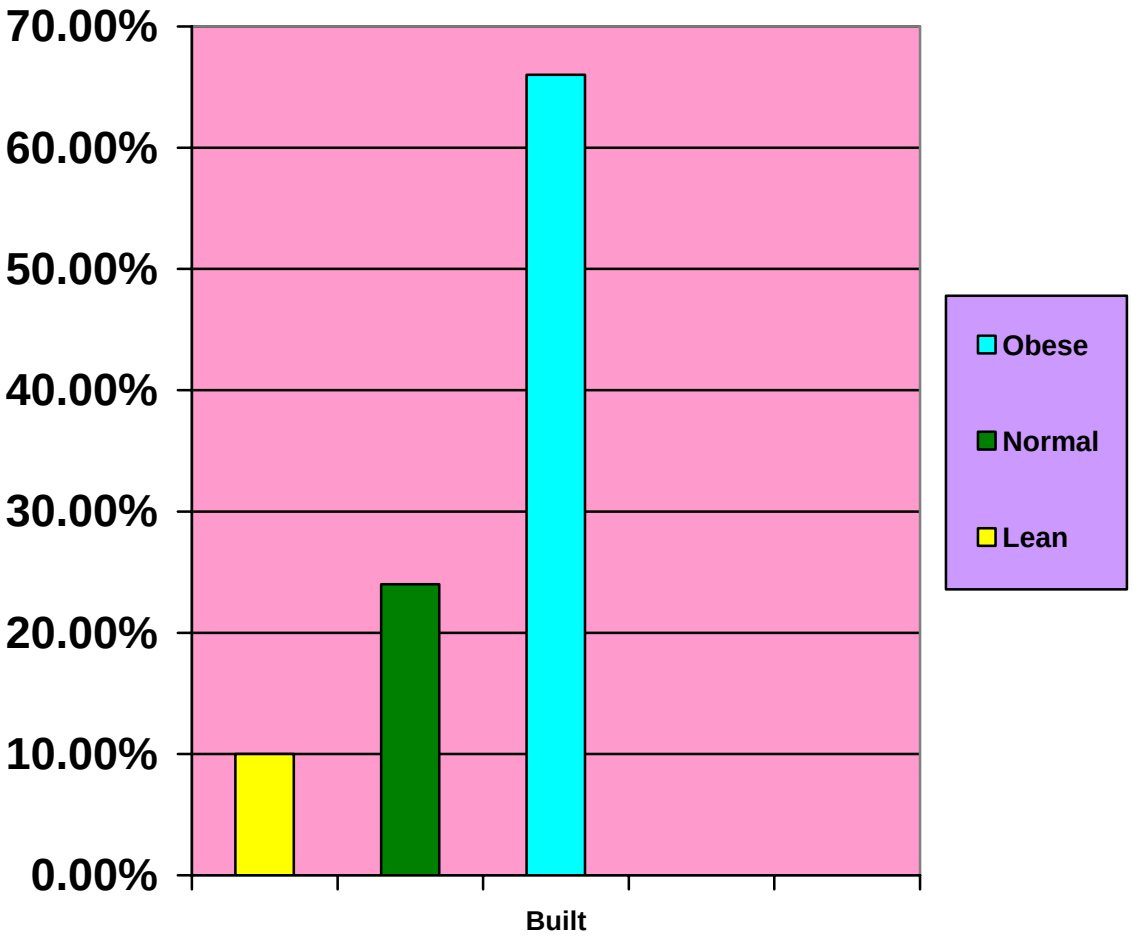
PHYSICAL BUILT

Table No. 5

Physical built	**No of cases**	**Percentage**
Lean	3	10
Normal	7	24
obese	20	66
Total	**30**	**100**

Out of 30 cases, 66% of cases were Obese and 24% of cases were in Normal.

PHYSICAL BUILT



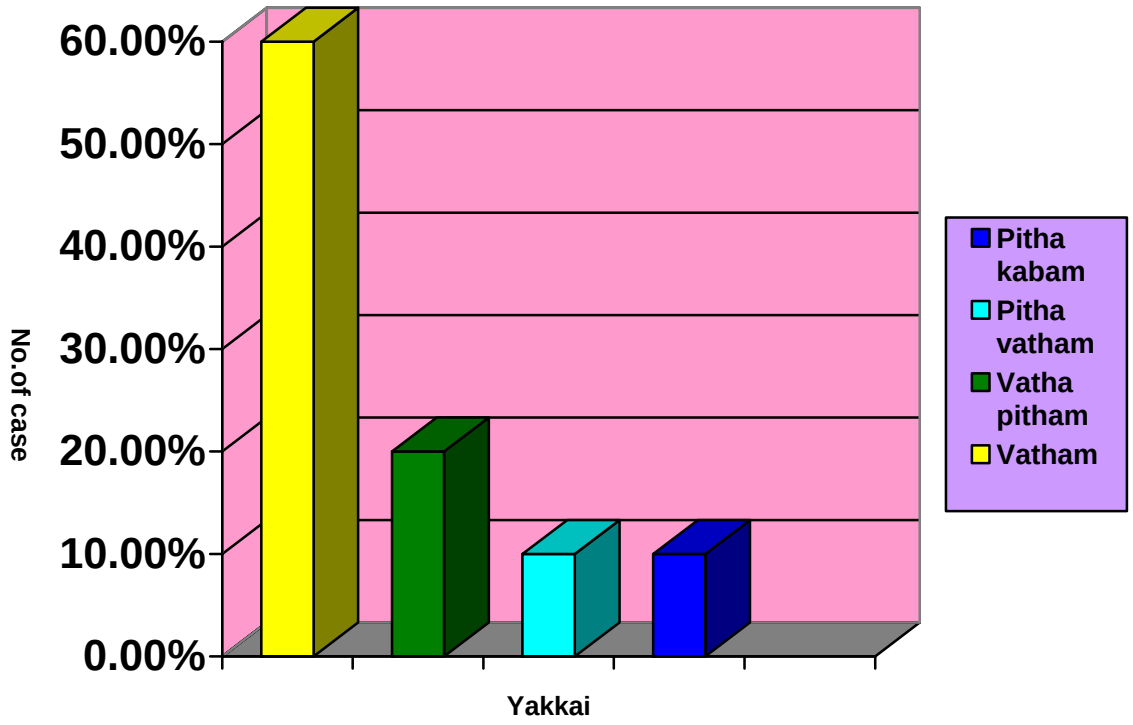
DISTRIBUTION OF CASES BY YAKKAI

Table No. 6

Yakkai	No. of. Cases	Percentage
Vatham	18	60
Vatha pitham	6	20
Pitha vatham	3	10
Pitha kabam	3	10
Total	**30**	**100**

Out of 30 cases, 60% of cases were Vatha udal, 20% of cases were vatha pitha udal.

DISTRIBUTION OF CASES BY YAKKAI



UYIR THATHUKKAL

Table No. 7

Uyir Thathukkal		**No. of. Cases affected (out of 30)**	**Percentage**
Vali	Pranan	0	0
	Abanan	30	100
	Samanan	22	73
	Uthanan	0	0
	Viyanan	24	79
	Naahan	0	0
	Koorman	0	0
	Kiruharan	0	0
	Devathathan	0	0
	Dhananjeyan	-	-
Azhal	Analam	22	73
	Ranjagam	18	59
	Alosagam	0	0
	Prasagam	10	33
	Saathaham	5	17
Iyya	Avalambagam	5	17
	Kilethagam	22	73
	Pothagam	0	0
	Tharpagam	0	0
	Santhigam	5	17

In types of Vali, out of the 30 cases of this study, 100% of cases Abaanan 79% of cases viyanan and 73% of cases Samaanan were affected.

In Azhal, out of 30 cases of this study, 73% of cases Analam, 59% of cases of Ranjagam are affected. In 17% of case Saathaham is affected. In 33% of cases Prasagam is affected.

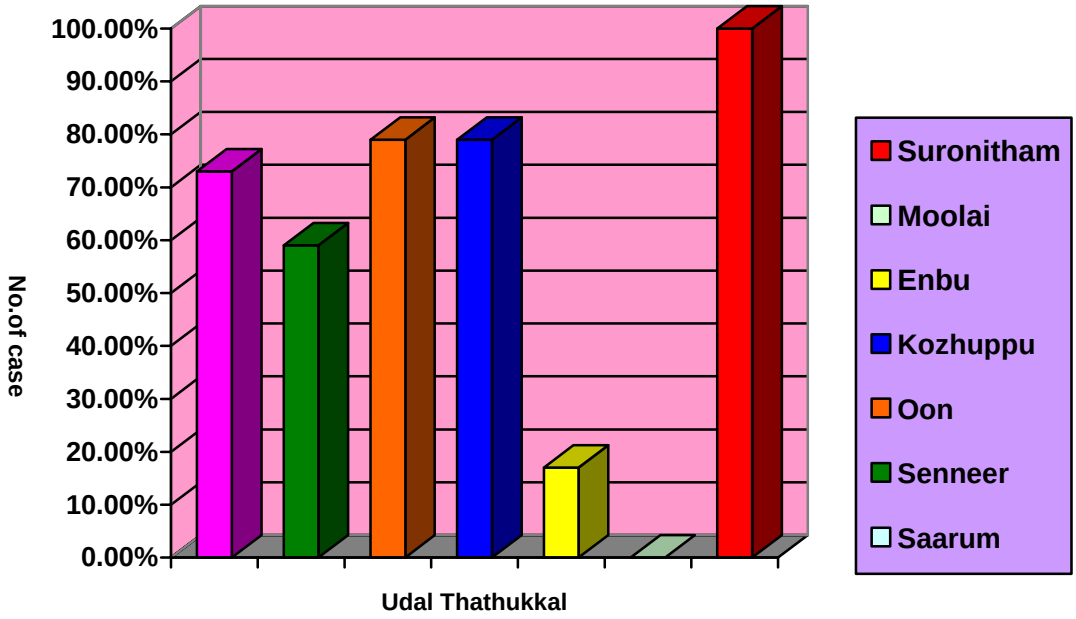
In Iyyam, out of 30 cases of this study, 73% of cases kilethagam is affected. 17% of cases, Avalambagam and Santhigam are affected.

UDAL THATHUKKAL

Table No. 8

Udal Thathukkal	**No. of. Cases affected (out of 30)**	**Percentage**
Saaram	22	73
Senneer	18	59
Oon	24	79
Kozhuppu	24	79
Enbu	5	17
Moolai	0	0
Suronitham	30	100

DISTRIBUTION OF CASES BY UDAL THAATHUKKAL



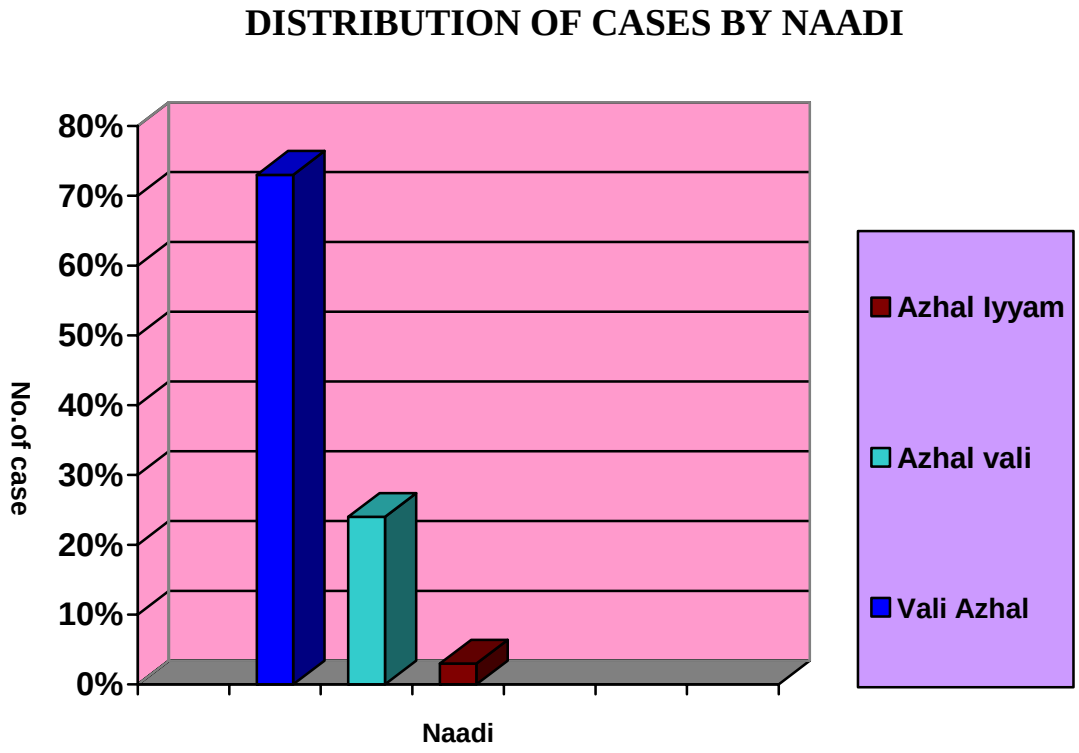
In udal thaathukkal Out of 30 cases, all of them (100%) have deranged suronitham, 79% of cases have deranged Oon and Kozhuppu, 59% of cases have deranged Senneer. 73% and 17% of cases have deranged Saaram and Enbu respectively.

DISTRIBUTION OF CASES BY NAADI

Table No. 9

Naadi	No. of. Cases (out of 30)	Percentage
Vali Azhal	22	73
Azhal Vali	7	24
Azhal Iyyam	1	3
Total	**30**	**100**

Among the 30 cases of this study, 73 % had Vali Azhal naadi, 24% of cases had Azhal Vali naadi and 3% of cases had Azhal Iyyam naadi.



DISTRIBUTION OF CASES BY ENVAGAI THERVU

Table No. 10

		No. of. Cases (out of 30)	**Percentage**
Naa	Normal	11	37
	Veluppu	18	59
	Maapadithal	**22**	**73**
Niram	Normal	20	67
	Affected(hyperpigmentation)	10	33
Mozhi	Urattha oli	0	0
	Sama oli	30	100
	Thazhntha oli	0	0
Vizhi	Normal	12	12
	Veluppu	18	59
Sparisam	Miguvepam	0	0
	Thatpam	0	0
	Midhavepam	30	100
Malam	Normal	8	27
	Affected (Malasikkal)	22	73
	Total	30	100

Among the 30 cases of this study 59 % of cases had pale tongue and 73% of cases had coated tongue. In niram 33 % case had hyperpigmentation. In Mozhi 100 % cases were sama oli. And in vizhi 59% of cases were pallor conjunctiva. In Sparism among 30 cases 100% cases were normal(Mithaveppam). In Malam 73% of cases had constipation.

DISTRIBUTION OF CASES BY NEERKURI

Table No. 11

Neer Kuri		No. of. Cases (out of 30)	Percentage
Neer Niram	Crystal clear	4	13
	Pale yellow	20	67
	Dark yellow	6	20
	Total	**30**	**100**
Nurai	Present	9	30
	Absent	21	70
	Total	**30**	**100**
Enjal	Present	0	0
	Absent	30	100
	Total	**30**	**100**

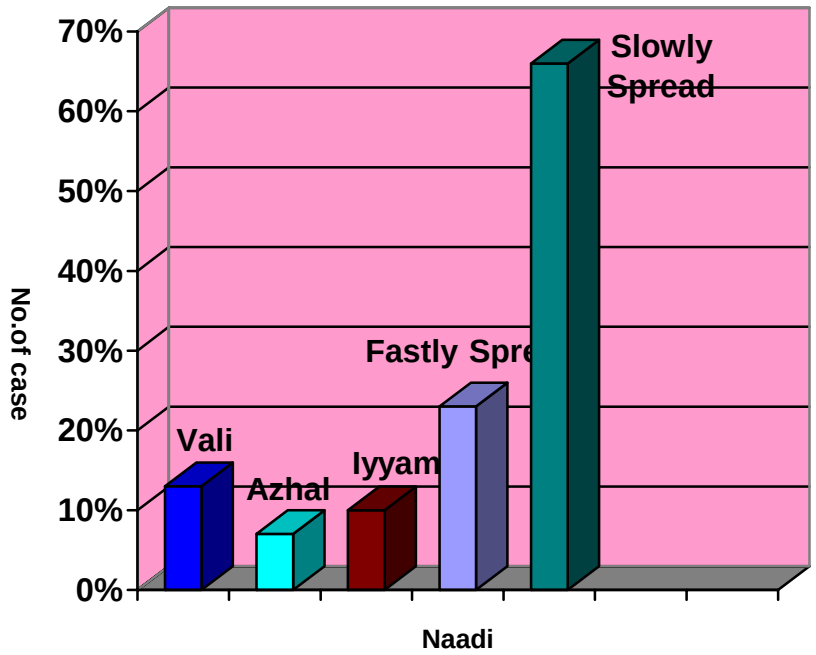
DISTRIBUTION OF CASES BY NEI KURI

Table No. 12

Neer Kuri	No. of. Cases (out of 30)	Percentage
Vali	4	13
Azhal	2	7
Iyyam	3	10
Fastly spread	2	7
Slowly spread	20	66

Among the 30 cases of this study 13% of cases were having Vali. 7% of cases were having Azhal. 10% of Cases were having Iyyam and 66% of cases were having slowly spread pattern of urine. In 7% of cases were having fastly spread pattern of urine.

DISTRIBUTION OF CASES BY NEI KURI



DISTRIBUTION OF CASES BY CLINICAL SIGNS OF GARPAVAAYU

Table No. 13

Clinical Sign of Garpavaayu	**No. of. Cases (out of 30) Observed**	**No. of. Cases (out of 30) Improved**	**Percentage**
Irreregular menstruation	30	28	92
Infertility	11	1	9
Oligomenorria	22	22	100
Dysmenorria	24	24	100
Menorrhagia	7	7	100
Weight gain	24	24	100
Hirsutism	7	0	0
Constipation	22	22	100
Missed abortions	1	0	0
Anemea	18	18	100

In clinical sign, out of the 30 cases, 100% of cases menstrual cycle was irregular and lengthy before treatment. After treatment the length of cycle were shortened in 28 patients (92%). 2 patients with oral contraceptive pills induced menstruation did not respond to this treatment. Out of 28 patients one patient is pregnant, 21 patients were getting regular cyclic with the lenth between 28 to 32 days (ie normal).

DURATION OF FLOW

22 cases (73%) have Oligomennoria (short duration of flow) were treated and they got normal duration of flow now, 7 patients (23%) with Menorrhagia were treated and they got normal duration of flow now.

FLOW LEVEL

7 patients(23%) with high flow level, 22 patients(73%) with low flow level were corrected to normal flow level.

CONSTIPATION

Among the 30 cases of this study 73% of cases have Constipation and they relieved their constipation during treatment.

WEIGHT GAIN

Among the 30 cases of this study 79% of cases have weight gain. After treatment most of them lost their weight upto 7 kg(avg 3.5kg)

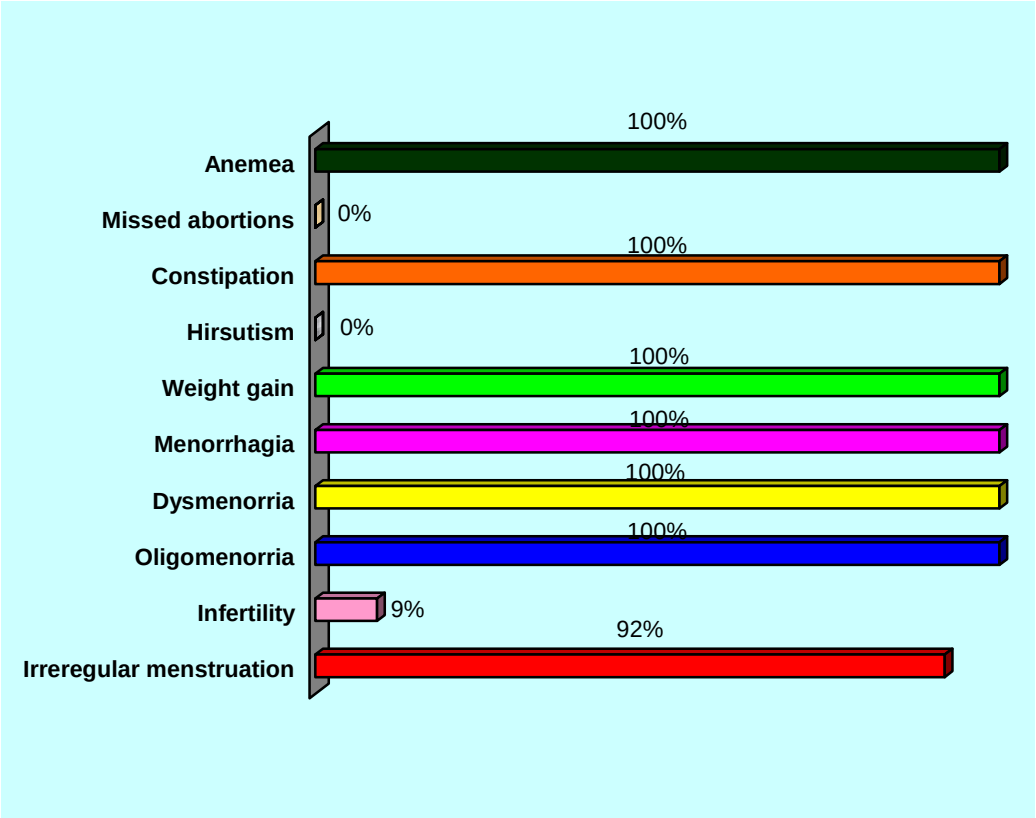
PAIN

Among the 30 cases of this study 79% of cases had Dysmennoria and they relieved their Dysmennoria during treatment.

ANEMIA.

Among the 30 cases of this study 59% of cases had anemia and after the treatment all of them had improved.

DISTRIBUTION OF IMPROVED PERCENTAGE OF CLINICAL SIGNS IN GARPAVAAYU



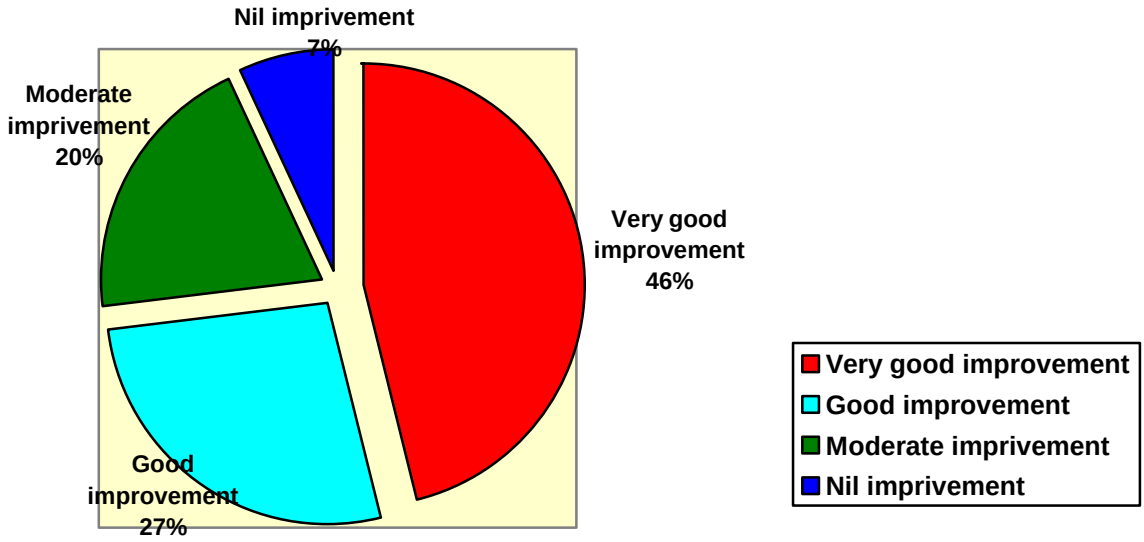
RESULT OF CLINICAL FEATURES AFTER TREATMENT

Table No. 14

Result	No. Cases	%
Very good improvement	14	46
Good improvement	8	27
Moderate imprivement	6	20
Nil imprivement	2	7
Total	30	100

Out of the 30 cases, 46% of cases had very good improvement, 27% of cases had good improvement, 20% of cases had Moderate improvement and 7% of cases have nil improvements. The results were statistically significant.

DISTRIBUTION OF CASES BY IMPROVEMENT



ULTRASONOGRAPHY REPORTS IN BEFORE AND AFTER TREATMENT

S. No	O P No	Name	Age	Before treatment	After treatment
1	AH 4811	Anusia	24	Polycystic ovaries	Normal study
2	AE 3866	Priya	28	Polycystic ovaries	Normal study
3	AE 1210	Aanandhi	24	Polycystic ovaries	Normal study
4	AB 754	Sheeja	19	Polycystic ovaries	Normal study
5	AE 4196	Rajeswari	30	Polycystic ovaries	Not taken
6	AE 3059	Parameshwari	27	Polycystic ovaries	Not taken
7	AF 4152	Prema	25	Polycystic ovaries	Normal study
8	AG 8043	Rasiya baanu	22	Polycystic ovaries	Normal study
9	AF 4135	Jaba	20	Polycystic ovaries	Normal study
10	AG 9190	Jayanti	19	Polycystic ovaries	Not taken
11	AF 445	Anandhi	21	Polycystic ovaries	Normal study
12	AD 5859	Malathi	29	Polycystic ovaries	Not taken
13	AG 2553	Gayathri priya	19	Polycystic ovaries	Polycystic ovaries
14	AF 1104	Saranya	17	Polycystic ovaries	Not taken
15	AD 7553	Malarvathana	26	Polycystic ovaries	Polycystic ovaries
16	AG 4653	Tamil selvi	18	Polycystic ovaries	Not taken
17	AG 5592	Saraswathy	30	Polycystic ovaries	Normal study
18	AF 2800	Lakshmi	21	Polycystic ovaries	Not taken
19	AF3577	Chitra	25	Polycystic ovaries	Polycystic ovaries
20	AG 1271	Madeswari	29	Polycystic ovaries	Not taken
21	AG 4625	Rekha	33	Polycystic ovaries	Not taken
22	AA 6229	Vijaya rani	34	Polycystic ovaries	Normal study
23	Z1860	Vijaya	31	Polycystic ovaries	Normal study
24	AE 7129	Uma	21	Polycystic ovaries	Normal study
25	AE 554	Thirupura sundari	36	Polycystic ovaries	Normal study
26	AE 527	Kalai selvi	25	Polycystic ovaries	Not taken
27	AE 7130	Anandi	18	Polycystic ovaries	Normal study
28	AG 4622	Poornima	23	Polycystic ovaries	Polycystic ovaries
29	AG 2163	Magesh vani	30	Polycystic ovaries	Not taken
30	AE 8744	Vijaya lakshmi	32	Polycystic ovaries	Gravid uterus & normal ovaries

Out of the 30 cases, 19 Patients took ultrasonography, after treatment. Among 30 patients, in 14 patients USG reports shows normal study, in 4 patients USG reports shows polycystic ovaries and one patient USG reports shows gravid uterus and normal ovaries. 11 patients did not taken USG after treatment.

OP.No: AB 2564 Anandi - Before Treatment(S.No 11)

☎ : 044 - 22480879

DEVI BALA MATERNITY

No.19, 4th Cross Street, Krishna Nagar, Pammal, Chennai - 600 075.

Date : 26/7/07

Patient Name: Mrs. Anandhi 20/F

Reference Dr: Self

LIVER

Size appeared normal.
No evidence of any mass lesion seen in the liver.
Intra hepatic biliary and portal radicles were normal.

GALL BLADDER

Appeared normal with regular walls
No evidence of any calculus seen in the GB.

HILUM
Appeared normal.

PANCREAS
Normal echo pattern

RENAL SYSTEM

Normal echo pattern of cortex and collecting system of both kidneys.
Right Kidney measured 9.3 X 4.5 cms and Left Kidney was9.8 X4.6 cms in Long axis.
No evidence of any calculus seen in the kidneys.

SPLEEN
Appeared normal

PELVIS
Showed filled bladder with regular walls.

UTERUS
Size appeared normal and measured 6.8 x 4.5 X 3.2 cms
Uterine cavity showed normal endometrial echo.
No evidence of any mass lesions seen in the Uterus.

RIGHT OVARY
Right ovary measures 2.8 X 2 cms in size.

LEFT OVARY
Left ovary measures 2.7 x 1.8 cms in size.

Periphery of both the ovaries showed multiple tiny follicles less than 1 cm in size.

(P.T.O)

FREE FLUID

No evidence of free fluid seen in the abdomen.

IMPRESSION

BILATERAL POLYCYSTIC OVARIES.

KSP

SONOLOGIST

(Dr. K.S.Priyadharsini)

OP.No: AB 2564 Anandi - After Treatment (S.No 11)

DEVI BALA MATERNITY

No:19,4th cross street,Krishna nagar,pammal, ch-75
Ph no:044-22480879

Patient Name: Miss.Anandhi **Age:21yrs/F**

Reference Dr: Self **Date:12/10/2007**

LIVER

Size appeared normal.
No evidence of any mass lesion seen in the liver.
Intra hepatic biliary and portal radicles were normal.

GALL BLADDER

Appeared normal with regular walls
No evidence of any calculus seen in the GB.

HILUM
Appeared normal.

PANCREAS
Normal echo pattern

RENAL SYSTEM

Normal echo pattern of cortex and collecting system of both kidneys.
Right Kidney measured 9.1 X 4.5 cms and Left Kidney was 8.9 X4.6 cms in Long axis.No evidence of any calculus seen in the kidneys.

SPLEEN
Appeared normal

PELVIS
Showed filled bladder with regular walls.

UTERUS

Anteverted.
Uterus measured 6.4 X 4.3 x 2.7 cms
Endometrium and myometrium normal.

RIGHT OVARY:

Right ovary measures 2.9 x 1.9 cms.

LEFT OVARY

Measures 2.7 x 1.8 cms.
Both ovaries normal in shape and echotexture.

DEVI BALA MATERNITY

No:19,4th cross street,Krishna nagar,pammal, ch-75
Ph no:044-22480879

FREE FLUID

No evidence of free fluid in the POD.

IMPRESSION

- **ECHO STUDY OF LIVER, GB, PANCREAS,KIDNEYS AND UTERUS APPEARED NORMAL**

SONOLOGIST

(Dr.K.S.Priyadharisini)

Kindly Correlate Clinically

OP.No: AE 7129 Uma - Before Treatment (S.No 24)

KARUNAI SCANS

CHAMBER - I
915, E.V.R. Periyar Salai,1st Lane,
(Near Hotel Abu Palace) Chennai - 84.
Phone : 2642 3338

DEAR DOCTOR, THANK YOU FOR REFERRING THE PATIENT ! 19/02/2008

REAL TIME B-MODE ULTRASONOGRAPHY OF ABDOMEN.

PATIENT NAME : MS.UMA AGE : 21 SEX : F

REFERRED BY : DR.Rajalakshmi

LIVER	:	*normal size, shape and echo pattern. liver margins are smooth. no mass seen. normal portal vein and common duct. hepatic veins normal.*
GALL BLADDER	:	*satisfactorily distended and showing normal wall thickness. no calculi Or biliary sludge seen.*
PANCREAS	:	*shows uniform parenchymal echo texture. no focal lesion or calcification.*
SPLEEN	:	*normal size, shape and showing normal echo texture. no cystic or solid lesions are seen.*
KIDNEYS	:	*size, shape normal. cortico medullary differenciation normal. ureters normal.no dilatation seen.no calculi.*
BLADDER	:	*shape normal. bladder wall normal. no calculi or debris seen.*
RESIDUAL VOLUME	:	*within normal limits.*
VESICOURETERIC JN	:	*no calculi seen. normal study.*
RIGHT ILIAC FOSSA	:	*normal study. no free fluid or mass seen.*
UTERUS	:	*measured in longitudinal axis :- 72 mm.* *measured in transverse axis :- 42 mm x 42 mm* *normal myometrial echos.no focal myometrial lesion.* *endometrial cavity echoes normal*
RIGHT OVARY	:	*measured 27 mm x 14 mm.polycystic*
LEFT OVARY	:	*measured 47 mm x 20 mm.polycystic*
POUCH OF DOUGLAS	:	*no free fluid seen.*

IMPRESSION

POLYCYSTIC OVARIES

Needs clinical correlation.

[consultant sonologist]

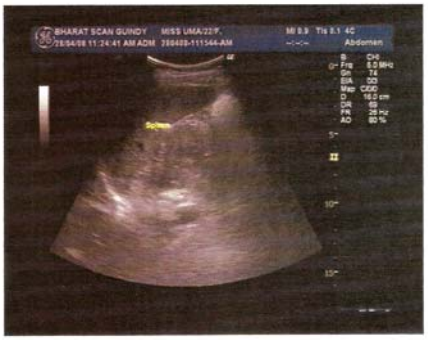
NOTE: *This study does not rule out any intraluminal intestinal pathology This is a professional opinion, not the final diagnosis and should be interpreted in the light of clinical background.This report is not for medico-legal purposes. The study may be sub - optimal in obese individuals*

OP.No: AE 7129 Uma - After Treatment (S.No 24)

BHARAT SCANS
The Complete Imaging Centre

Patient Name	Ms. P. UMA	Age/Sex	22 Years / Female
Patient ID	07280408	Visit No	1
Referred by	Dr. SELF	Visit Date	28/04/2008

ULTRASOUND ABDOMEN



LIVER:

LIVER NORMAL IN SIZE WITH UNIFORM ECHOTEXTURE.
NO FOCAL ALTERATION IN ECHOTEXTURE.
INTRAHEPATIC BILIARY RADICLES APPEAR NORMAL.
COMMON BILE DUCT IS NOT DILATED.
PORTAL AND HEPATIC VEINS APPEAR NORMAL.

GALL BLADDER:

ADEQUATELY DISTENDED.
NO ABNORMAL INTRALUMINAL ECHOES.
WALL THICKNESS APPEARS NORMAL.

PANCREAS:

NORMAL IN SIZE. IT SHOWS UNIFORM ECHOTEXTURE.
NO EVIDENCE OF CALCIFICATION.

SPLEEN:

NORMAL IN SIZE. IT SHOWS UNIFORM ECHOTEXTURE.

RIGHT KIDNEY:

RT KIDNEY MEASURES 9.59 x 3.42 cm.
NORMAL CORTICAL ECHOES.
CORTICO-MEDULLARY DIFFERENTIATION IS MAINTAINED.
PELVI CALYCEAL SYSTEM APPEARS NORMAL.

LEFT KIDNEY

LT KIDNEY MEASURES 9.84 x 4.68 cm.
NORMAL CORTICAL ECHOES.
CORTICO-MEDULLARY DIFFERENTIATION IS MAINTAINED.
PELVI CALYCEAL SYSTEM APPEARS NORMAL.

BHARAT SCANS

The Complete Imaging Centre

Patient Name	**Ms. P. UMA**	**Age/Sex**	**22 Years / Female**
Patient ID	**07280408**	**Visit No**	**1**
Referred by	**Dr. SELF**	**Visit Date**	**28/04/2008**

BLADDER:

BLADDER NORMAL IN CONTOUR.

NO ABNORMAL INTRALUMINAL ECHOES.

WALL THICKNESS APPEARS NORMAL.

PELVIC ORGANS:

UTERUS ANTEVERTED AND IT MEASURES 8.24 x 1.39 cm.

ENDOMETRIAL AND MYOMETRIAL ECHOES NORMAL.

ENDOMETRIAL THICKNESS NORMAL. ET = 0.71 cm.

RT OVARY MEASURES 3.01 x 1.98 x 1.78 cm. VOL = 5.55 ml.

A FOLLICLE MEASURES 2.06 x 1.39 cm SEEN IN THE RIGHT OVARY.

LT OVARY MEASURES 3.49 x 2.83 x 1.16 cm. VOL = 5.98 ml.

BOTH OVARIES NORMAL IN ECHOTEXTURE.

NO FREE FLUID IN CUL-DE-SAC.

RETROPERITONEUM:

AORTA NORMAL IN CALIBRE. I.V.C. NORMAL.

NO SIGNIFICANT RETROPERITONIAL LYMPHADENOPATHY.

NO FREE FLUID SEEN IN PERITONIAL CAVITY.

IMPRESSION:

* NORMAL SONOGRAPHIC STUDY OF LIVER, GALL BLADDER, PANCREAS, SPLEEN, KIDNEYS, BLADDER AND PELVIC ORGANS.

(Kindly correlate clinically)

Dr. S. Leve Joseph Devarajan,DMRD, DNB.,
Consultant Radiologist.

DISCUSSION

- Approximately 1000 cases of Soothaga Noi were recorded in the *out patient department of Ayothidoss pandithar hospital, National institute of siddha*. Author has seen 100 cases of Soothaga Noi in which author selected 30 cases, with the clinical symptoms of **Garpavaayu** for the study.

- **Garpavaayu** is a specific type of disease with the symptoms of Mensrual disturbances i.e Amenorrhea, Oligomenorrhea followed by Menorrhagia, Dysmenorrhea, Infertility, missed abortions, low back pain, Constipation and Obesity.

- So many Siddhars described about the Soothaga noi. In which Siddhar Agasthiyar mentions about the **Garpavaayu** and its symptoms which is more similar to that of PCOD in modern medicine**.**

- Among the 30 patients admitted in the **Out patient and Inpatient department of Ayodidoss Pandithar Hospital, National institute of Siddha**. All the patients were treated through out all the seasons.

- In the present study comprising 30 patients, all were between the ages of 15 to 45 years. Most of them are in the age of 15 to 35 years, very few in 35 to 45yrs.

- In **Garpavaayu** majority of cases were having Maapadithal in the tongue. The colours of the tongue were Velluppu (pallor).
- Most cases have Sama oli. In Most of the cases vizhiyin niram is Vellupu
- Most cases have Mitha veppam. In Garpavaayu most cases have Malasikkal.
- Most Cases have showed Manjal niram in urine. The Nei kuri of **Garpavaayu** shows mostly vatham and sathiya Nei kuri i.e slowly spreading in nature.
- In **Garpavaayu** Eruvaai and karuvaai are affected
- In the sub types of Vali, Abanan, Samaanan, Viyaanan and are affected.
- In Azhal sub types, Analam, Ranjagam and Prasakam are affected.
- In Iyyam sub types Avalambagam, Kilethagam and Santhigam are affected.
- In In udal thaathukkal, 100% 0f cases have deranged suronitham, 79% of cases have deranged Oon and Kozhuppu, 59% of cases have deranged Senneer. 73% and 17% of cases have deranged Saaram and Enbu respectively.
- Most of the **Garpavaayu** are from Neithal Nilam.
- Most of the case have anemia and all of them were treated.

- Anger, fear, sadness, non vegetarian diet, Vali (Vatham) inducing diet more aggravating factors of this disease.

- The clinical trial was conducted in 30 patients of PCOD with trial drug of *Kalinga thylam* – 15 ml with neeragaaram in empty stomach for the first three mornings after start of menstruation for 3 cycles. *Sengottai valladhi legium* – 2g twice a day for 48 days, except the days in which the patients taking kalinga thylam.

- Patient is advised to follow the strict pathiyam, ie patient is asked to avoid Salt, Vaayu inducing foods and activities, fatty food and sexual inter course. Patient is asked to take plenty of vegetables, fruits and greens.

- 46% of cases had very good improvement, 27% of cases had good improvement, 20% of cases had Moderate improvement and 7% of cases have nil improvements.

SUMMARY

- The clinical trial was conducted in 30 patients of PCOD with trial drug of *Kalinga thylam* – 15 ml with neeragaram in empty stomach for first three mornings after the start of menstruation for 3 cycles. *Sengottai valladhi legium* – 2 g twice a day for 48 days
- Clinical diagnosis of GARPAVAAYU was done in the basis of clinical features described in our text book.
- Hematological and Urine examination and ulrasonography were done before and after treatment of trial drug.
- The various Siddha aspect examinations were carried out and recorded.
- GARPAVAAYU in Siddha aspect was correlated with PCOD in modern aspect.
- Pharmacological study showed that the trial drug has Estrous cycle regulating activity without any adverse effect. It also has anti oxidant activity.
- Observation of the trial drug in the clinical study was clinically effective.
- Drugs regulated the menstrual cycle and reduced the body weight in obesed patients significantly. Drugs reduced the symptoms by balancing the vatham.

- The patients came with infertility and irregular menstruation due to PCOD were ovulated regularly and having regular menstruation in which some of the patient had conceived.

- Their USG reports shown normal ovaries and uterus. Thus the trial drugs proved that they regulate the menstrual cycle in PCOD patients.

CONCLUSION

- The clinical trial of *Kalinga thylam* and *Sengottai valladhi legium* was conducted in 30 patients.

- In the study, Out of the 30 cases, 46% of cases had very good improvement, 27% of cases had good improvement, 20% of cases had Moderate improvement and 7% of cases have nil improvements with trial drugs. The results were statistically significant and there were no clinically significant adverse reactions noted with trial drug.

- Modern treatments cause side effects e.g . Clomiphene. Clomiphene should not be used for more than about six cycles. Long-term use of clomiphene may increase the risk of ovarian cancer.

- Expenditure of the trial drug is cost effective, easily preparable and highly effective in ***Garpavaayu***.

- The clinical study was encouraging to do the extensive study in large sample of ***Garpavaayu*** patients with trial drug with proper diagnosis.

ULTRASONOGRAPHY REPORTS IN BEFORE AND AFTER TREATMENT

S. No	O P No	Name	Age	M/UM	Weight		ROC			LOC		
					BT	AT	BT	AT	BT	1C	2C	3C
1	AH 4811	Anusia	24	UM	48	48	IR	R	45	35	32	30
2	AE 3866	Priya	28	M	98	92	IR	R	120	45	35	32
3	AE 1210	Aanandhi	24	UM	61	58	IR	R	60	32	30	30
4	AB 754	Sheeja	19	UM	56	54	IR	R	90	30	30	30
5	AE 4196	Rajeswari	30	M	56	53	IR	R	180	A	A	A
6	AE 3059	Prameshwari	27	M	57	55	IR	R	90	45	35	30
7	AF 4152	Prema	25	UM	63	58	IR	R	60	33	30	30
8	AG 8043	Rasiya baanu	22	UM	53	52	IR	R	50	32	30	30
9	AF 4135	Jaba	20	UM	62	59	IR	R	90	50	42	35
10	AG 9190	Jayanti	19	UM	37	37	IR	R	50	38	31	28
11	AB 2564	Anandhi	20	UM	60	55	IR	R	90	32	31	28
12	AD 5859	Malathi	29	M	70	69	IR	IR	180	A	A	A
13	AG 2553	Gayathri priya	19	UM	72	69	IR	R	65	42	37	32
14	AF 1104	Saranya	17	UM	50	51	IR	R	60	35	32	29
15	AD 7553	Malarvathana	26	UM	65	59	IR	R	90	52	49	41
16	AG 4653	Tamil selvi	18	UM	85	80	IR	R	90	55	47	39
17	AG 5592	Saraswathy	30	M	83	79	IR	R	90	40	35	30
18	AF 2800	Lakshmi	21	UM	71	67	IR	R	60	30	30	30
19	AF 3577	Chitra	25	M	76	75	IR	IR	120	65	45	43
20	AG 1271	Madeswari	29	M	93	86	IR	R	90	55	38	32
21	AG 4625	Rekha	33	M	67	63	IR	R	60	45	35	30
22	AA 6229	Vijaya rani	34	M	61	57	IR	R	45	32	30	30
23	Z 1860	Vijaya	31	M	59	56	IR	R	90	35	30	30
24	AE 7129	Uma	21	UM	62	56	IR	R	40	32	31	29
25	AE 5541	Thirupura sundari	36	M	66	62	IR	R	90	32	30	30
26	AE 527	Kalai selvi	25	M	75	69	IR	R	60	38	36	36
27	AF445	Anandi	21	UM	50	50	IR	R	60	30	30	30
28	AG 4622	Poornima	23	UM	58	56	IR	R	45	35	31	30
29	AG 2163	Magesh vani	30	UM	92	87	IR	R	180	45	39	37

30	AE 8744	Vijaya lakshmi	32	M	64	59	IR	R	45	35	32	P

DOF				F.L				Pain		Constipation		ANE
BT	1C	2C	3C	BT	1C	2C	3C	BT	AT	BT	AT	BT
1	2	3	3	L	L	M	M	A	A	P	A	P
5	4	4	4	H	M	M	M	P	A	P	A	P
2	3	3	3	L	M	M	M	P	A	A	A	P
20	4	4	4	H	M	M	M	P	A	P	A	P
3	A	A	A	L	A	A	A	P	P	P	P	ANE
1	2	2	3	L	M	M	M	A	A	P	A	ANE
3	3	3	3	L M	M	M	M	P	A	A	A	A P
2	3	4	4	L	M	M	M	A	A	P	A	P
15	7	4	4	H	H	M	M	P	A	P	A	A
3	3	3	3	L	M	M	M	P	A	A	A	P
3	4	4	4	L	M	M	M	P	A	P	A	A
3	A	A	A	L	A	A	A	P	P	P	P	P
2	3	3	3	L	M	M	M	P	A	P	A	P
5	4	4	4	H	H	M	M	P	A	A	A	A
25	9	5	5	H	H	M	M	P	A	P	A	P
2	3	4	4	L	M	M	M	P	A	P	A	A
20	6	4	4	H	H	M	M	P	A	P	A	P
4	4	4	4	M	M	M	M	P	A	A	A	P
2	4	4	4	L	M	M	M	A	A	P	A	P
1	2	3	4	L	M	M	M	P	A	P	A	A
25	7	5	4	H	H	M	M	A	A	P	A	P
3	3	3	4	L M	M	M	M	P	A	P	A	P
2	4	3	3	L	H	M	M	A	A	P	A	A
2	3	3	3	L	M	M	M	P	A	A	A	P
1	2	2	3	L	L	L	M	P	A	P	A	P
1	2	2	3	L	L	M	M	P	A	A	A	P
2	3	3	3	L	M	M	M	P	A	P	A	A
1	3	3	3	L	M	M	M	P	A	A	A	P
1	1	3	3	L	L	M	M	P	A	P	A	P

3	3	3	A	L	M	M	A	P	A	P	A	A

USG

AT	BT	AT
A	PC	NS
A	PC	NS
A	PC	NS
A	PC	NS
P	PC	
A	PC	
A	PC	NS
A	PC	NS
A	PC	NS
A	PC	
A	PC	NS
P	PC	
A	PC	PC
A	PC	
A	PC	PC
A	PC	
A	PC	NS
A	PC	
A	PC	PC
A	PC	
A	PC	
A	PC	NS
A	PC	NS
A	PC	NS
A	PC	NS
A	PC	
A	PC	NS
A	PC	PC
A	PC	

A	PC	GU,NO

PREPARATION OF TRIAL DRUGS

KALINGA THYLAM

fypq;f ijyk;

thUfr;rh wPUspr;rh wUzr; rhW

tiuepk;gr; rhWtHj;j khd NeaQ;

NrUfr;rh tstdëw; iwe;J kl;lj;

jpd;%d;wq; Fg;gfw;wpr; NrHfhyhf

thUfrh Ue;jdj;jhHf; fpJfypq;f

khj;ijy kynlhopf;F khjhe;jr; nre;

ePUff;rhlhtp uj;jFd;kk; Nghf;F

epiykyl;Lg; GOf;fisA ePf;Fq; fhNz

- rpj;j itj;jpa jpul;L

Ingredients

Juice of citrullus colocynthus

Juice of Melia azhadiracta

Juice of Allium cepa

Juice of Lemon fruit

Castor oil - equal amounts

Preparation:

Take all the above mentioned ingredients in equal amounts. Boil them until it reaches the mezhugu patham, then filter and store the medicine.

SENGOTTAI VALLADHI LEGIUM

நோய் தீரச்சேங்கொட்டை வல்லாதிசொல்வேன்

நுணுக்கமாய்ச் சேங்கொட்டை பலந்தான்பத்து

மோயவே சாணிப்பால் சுத்தி செய்து

மூக்குவெட்டி யின்னுமதில் முறையைக்கேளு

சாயவே கொடுவேலி பறங்கிப்பட்டை

சங்கோடு அமுக்கரா சிவனார் வேம்பு

ஓயவேமாவிலிங்கப்பட்டையோடு

உத்தமனே வகைக்கு ஒருபலந்தானென்னே

என்னவே கருஞ்சீரகம் கஸ்தூரி மஞ்சள்

இருதிப்பிலி கடுக்காய் வாலுலுவை கோட்டஞ்

சொன்னதொரு யிவையெல்லா மிடித்துவேறே

சூரணமாய் வைத்திட்டுச் சொல்லக்கேளு

உன்னிமுன்சுத்திசெய்த சேங்கொட்டைதன்னை

உரலிலிட்டுக் கொப்பரையின் தேங்காய் ரெண்டு

என்னவே யெள்ளுமொரு படிதான் ரெண்டு

இடித்துமே அதின்பின்பு சூரணத்தைக்கொட்டே

கொட்டியே சேர்த்தொன்றா யிடிக்கும்போது

குமுறவே பணைவெல்லம் அஞ்சுபலம் போடு

திட்டம் இரசகற்பூரம் விராகன் அஞ்சு

சேர்த்திடித்து வல்லாதி செய்துகொண்டு

el;lNt வல்லாதி அந்திசந்தி

நாளொன்று வெருகடிதா னயந்து கொள்ளு

குட்டமாங் கிரந்தியொடு அரையாப்பு சூலை

குன்மமோடு வயிற்றுவலி வாய்வுசூலை

சூலையோடு சூதகத்தின் வாய்வு தீரும்

சொற்பெரிய மேகமெல்லாம் சொல்லாதோடும்

வாலையாந் திரேகமது சித்தியாகும்

மண்டலந்தான் பத்தியமாய்க் கொண்டுவாநீ

காலையே பத்தியந்தான் சொல்லக்கேளு

கைப்போடு புளிபுகையும் பெண்ணுந்தள்ளு

பாலோடு மற்றதெல்லா மிச்சா பத்தியம்

பாங்கான உப்பதனை வறுத்துக்கொள்ளே

- பிரமமுனி கருக்கடை சூத்திரம்

Ingredients

1.	Purified Semecarpus anacardium	-	350gm
2.	Plumbago zeylanica	-	35gm
3.	Smilax chinensis	-	35gm
4.	Withania somnifera	-	35gm
5.	Azima tetracantha	-	35gm
6.	Crateava magna	-	35gm
7.	Indigofera asphalathoids	-	35gm
8.	Nigella sativa	-	35gm

9. Curcuma aromatica	-	35gm
10. Piper longum	-	35gm
11. Pirer longum root	-	35gm
12. Terminalia chebula	-	35gm
13. Celastrus paniculata	-	35gm
14. Costus species	-	35gm
15. Dried coconut	-	2 nos
16. Sesamum indicum seeds	-	2.8 litre
17. Palm jaggery	-	175gm
18. Purified Mercuric Chloride(pooram)	-	20.5gm

Preparation:

Powder the above ingredients separately except 1, 15, 16 and pound items 1, 15, 16 separately and mix of them. Again pound these entire items until it reaches legium consistency.

Dosage and administration:

This is an open trial**.** *Kalinga thylam* is given 15 ml in empty stomach for first three mornings after starting of menstruation for 3 consecutive cycles and *Sengottai valladhi legium* – 2 g twice a day for 48 days. Trial treatment period is 3 cycles. Patient have to visit once in 2 weeks for assessment and drug collection.

Dietary regimen:

Avoid salt and tamarind taste and bitter taste food items.

Avoid smoking and sexual intercourse.

Advised to take milk.

Properties of the ingredients of the trial drugs:

Mw;Wj;Jk;kl;b Citrullus colocynthis - cucurbitaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

fpil vq;Nf Nrhk;gy; vq;Nf NfLwr;nra; thjf;

fil vq;Nf ahw;Wf;fypq;f – kiljpwf;fpd;

dz;il ailr;ry; vq;Nf Mapioahh; #jfj;jp

Dz;il Ailr;ry; vq;Nf NahJ

Glucoside – colocynthin, colocynthein – resin, colocynthetin, pectin, gums

Abortifacient, puerperal disorders

Useful in hair growth and sterility.

vYkpr;rk; gok; Citrus acida - Rutaceae

Rit - Gspg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

jhfk; FefNeha; jhohrpypgjNeha;

Ntfq; nfhSd;khjk; tPWgpj;jk; - khfz;Nzha;

fd;d Neha; the;jpAk; Nghq; fl;Lthj;njhopypd;

kd;d ndYkpr;rk; fdpia tho;j;J

Citric acid, phosphoric acid, malic acid, citrates of potassium, sugar, mucilage and ashes, hesperidin.

Refrigerant, anti - scorbutic, germicide, antiseptic

kiy Ntk;G Melia azadirachta - Meliaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

kyl;L GOTk; tapw;wpd;typAk;

kyl;L tha;Tk; Nghklq;fpf; - nfhyl;L

KiyNtQ; rpdNtw;fz;NzhjpkNk Nfsha;

kiy Ntk;gpd; Ngiu tOj;J

Light yellow non-crystalline yellow resinous substance without alkaloidal properties, sugar, tannin

Emmenogogue, resolvent, anthelmentic, antilithic , diuretic, astringent.

ntq;fhak; Allium cepa - Alliaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

ntg;g Kyq; fpue;jp tPwpuj;j gpj;jKld;

nrg;G eh mf;fue;jPuhj;jhfk; - ntg;Gf;

fLg;gWke; jQ;re;jp fhr tapw;Wg;gy;

jLg;NgW ntq;fhaj; jhy;

Sulphur contains acrid volatile oil, quercetin

Emmenogogue, diuretic, Aphrodisiac, antiseptic.

Nrq;nfhl;il Semecarpus anacardium- Anacardiaceae

Rit - ifg;G> tpWtpWg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

fpUkpfaQ; #iy fpue;jp jpkpH thjk;

nghUK Fd;k Kz;Kyk; Gz;izj; - jUkh

fhpKfpf; Fl;lq; fBtplghfk; Ngh

nkhpKfpf; Fr;Rf khnkz;

Anacardic acid, anacardol (nonvolatile alcoholic, semecarpol, bhilawanol)

Powerful antiseptic, cholagogue, escharotics, digestive, nervine cardiac tonic, general respiratory stimulant.

nfhbNtyp NtH Plumbago zeylanica - Plumbagineaceae

Rit - fhHg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

fl;btpuzq;fpue;jp fhy;fs iuahg;Gf;

fl;b #iytPf;fk; fho;%y Kl;buj;jf;

fl;L ePNuw;wq; fdj;j ngUtapW

kl;Lq; nfhLNtypahk;

Plumbagin,

Alterative, gastric stimulant, appetizer. It has specific action on uterus.

gwq;fpg; gl;il Smilax chinensis - Lilliaceae

Rit - ,dpg;G

tPhpak; - jl;gk;

gphpT - ,dpg;G

jhfk; gythje; jhJel;lk; Gz;gpsit

Nkfq; fbfpue;jp tPo;%ye; - NjfKlq;

Fl;il gfe;juNkw; nfhs; tkdk; Nghk; gwq;fpg;

gl;ilapid Ar;rhpj;Jg;ghH

Steroid saponins (0.5-3 %): chief components are sarsaparilloside, parillin, deglucoparillin, deglucorahmnoparillin, and sarsapogenin, β-sitosterol and stigmasterol, fat, sugar, glucoside, coluring matter.

Depurative, diaphoretic. stimulant, alterative, antisyphilitic,

rq;fk; Fg;gp Azima tetracantha - Salvadoraceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

Fug;ghd; fpue;jp fUq;Fl;lNuhfk;

Kug;ghd NkfnkhopAq; - fUg;gf;

fUq;fpue;jp nrt;thg;Gf; fl;BfSNkF

kUQ; rq;fk; Fg;gpf; fwp

rq;fk; NtHgl;il rspapUkiyr; Ruj;ij

aq;fthjf;fLg;ig ahlijg;igg; - gq;fNk

nra;Aq; fpue;jpiaAl;Bfhy; fpUkpiaapt;

itae; jdpnyhopf;F khy;

azimine, azcarpine and carpine. Roots has friedelin, lupeol, glutinol, ß – sitosterol

diuretic, stimulant, astringent, antiperiodic, expectorant

mKf;fuh Withania somnifera - Solanaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

nfhQ; JtHg;ghq; nfhbafaQ; #iyahp

kpQ;Rfug;ghd; ghz;L ntg;Gjg;G – tpQ;rp

KRTW NjhlKk; NghNkhfk; mdYz;lhk;

mRtnfe;jpf; nfd;wwp

The main constituents of ashwagandha are alkaloids and steroidal lactones. cuscohygrine ,iron, pseudotropine, scopoletin, somniferinine, somniferiene , tropanol , withanine, withananine and withanolides A-Y.

Among the various alkaloids, withanine is the main constituent. The other alkaloids are somniferine, somnine, somniferinine, withananine, pseudo-withanine, tropine, pseudo-tropine, 3-a-gloyloxytropane, choline, cuscohygrine, isopelletierine, anaferine and anahydrine. Two acyl steryl glucoside viz. sitoindoside VII and sitoindoside VIII The leaves contain steroidal lactones, which are commonly called withanolides. The withanolides have C28 steroidal nucleus with C9 side chain, having six membered lactone ring.

Alterative, aphrodisiac, tonic, deobstruent, diuretic, narcotic, abortifacient. Antiboitic

rptdhH Ntk;G Indigofera asphalathoids - Fabaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

rha;Fkpl;bg;Gz; gok;Gz; rHkFl;lk; gpsit

jPf;fLf;fhy; td;nghUNeha; rpe;Jkh – Neha;f;F

tpijahjp Ntk;gpdh nka;f;foF fhiy

Aijahj Ntk;gpdhYd;

khtpypq;f kuk; Crateva religeosa - Capparidaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

Ruq;fbapd; Nwhre; njhiyahj thj

Kuk; ngWtp~q;fnshopAk; - muKq;

fUkhtLtapYq; fz;lq; Rq; fz;zh

nahL khtpypq;Ff;Fiu

friedelin, lupeol, butilinic acid, diosgenin, gluco caparin, ß – sitosterol, tri acontine, tri acontanol, cetyl and ceryl alcs.

Laxative, lithotriptic, Anti-inflammatory, oxytocic

fUQ;rPufk; Nigella sativa L. - Ranunculaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

fUQ;rPufj;jhw; fug;ghndhL Gz;Zk;

tUQ;rpuha;g;gPerK khWk; - mUe;jpdhy;

fha;r;ry; jiy typAq; fz;typAk; NghKyfpy;

tha;r;r kUe;njdNt it

Hederin, thymoquinone, abscisic acid, flavonoids etc.

Carminative, diuretic, emmenagogue, galactogogue, anthelmintic, stomachic, parasiticide, emollient.

f];Jhhp kQrs; Curcuma aromatica - Zingiberaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

Gz;Zq; fug;ghDk; Nghfhf; fpUkpfSk;

Ez;Zke;jhf;fpdpA ehrkhk; - tz;zkyHj;

Njhj;Nj wsfkpd;Nd Rf;fpyKk; Gj;jpAkhq;

f];Jhhp kQrSf;F fhz;

Curdione, neocurdione, curcumol, tetramethylpyrazine and (R)-(+)-1,2-hexadecanediol were isolated from C. aromatica.

Stimulant, tonic, carminative.

jpg;gpyp Piper longum Linn - Piperaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

fl;b vjpHepd;W fLNeha; vy;yhk; gzpAk;

jpl;b tpidafYk; Njfnkj;j – Gl;bahk;

khkDf;F khkndd kw;wtu;f;F kw;wtdhk;

fhkndDk; jpg;gpypf;Fk; if

Piperine and Piplartin

Alterative, tonic, sedative, vermifuge, cholagogue, emmenagogue.

ahidjpg;gpyp Scindapsus officinalis - Araceae

Rit - fhHg;G

tPhpak; - ntg;;gk;

gphpT - fhHg;G

thjkWe; jPgdkh khwhf; fgq; fug;ghd;

XJFuw; fk;kypia NahLq;fhz; - G+jyj;jpw;

Nrhidia NeH ehrpdPH Njhyhr;R thrKk;Nghk;

ahidapdw;wpg;gpypajhy;

Scindapsin A and B, sterol.

stomachic, stimulant, anthelmentic, sudorific

fLf;fha; Terminalia chebula - Combretaceae

Rit -JtHg;G.,dpg;G>Gspg;G>ifg;G>fhHg;G

tPhpak; -ntg;gk;

gphpT -,dpg;G

jhil fOj;jf;fp jhYFwpaptplg;

gPil rpypgjKw; NgjpKl – khil nal;lhj;

Jhykpb Gz;thjNrhzp fhkhiy apuz;

lhykpb Nghk;thpf;fhahy;

Fruits contain astringent substances - tannic acid, Chebulinic acid, gallic acid etc. Resin and a purgative principle of the nature of anthraquinone and sennoside

antibacterial and antifungal,laxative

It has 18 amino acids, sugar, phosphoric acid, sucicinic acid and some other acids in minute quantities.

The concentration of tannin decreases in fruit as it matures and the acidity increases.

Resin and purgative principle of anthraquinone and sennoside nature is also present.

thYOit mhprp Celastrus paniculata - Celastraceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

tapw;W fLg;G typ khwhf;fpuhzp

gapj;jpaq; fhrkyge;jQ; - rapf;fnthzhr;

#jpfh thjKk; Nghe; njhy; thYOittpijf;

Nfhjp itj;j ey;nkhopia NahH

Oleum nigrum – an empyreumatic black oil

Alterative, stimulamt, nervine tonicc, aphrodisiac, diaphoretic.

Nfhl;lk; Saussurea lappa

Rit - ifg;G. tpWtpWg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

jpl;b fTsfLfsQ; nrd;dp ehtha;

nrwpgpzp nrg;gijg;G jhtHj;j %ij

Kl;bnaUKistpuzQ; Rthr fhr

%bfj;Njhl urplq;fz; Nkff;

fl;b a[fy;yptplghfk; Nkff;

fzk; ghy fpufnkhL jhJel;lk;

nrl;b tU gpukpgpj;jkpit nahUq;Nf

nrfiyAk; tpuzfhpf;Fr; Rfg;NgwhNk

Essential oil (1.5%). Essential oil constituents (Aplotaxena 20%, Sesquiterpenes (60%), Saussuine alkaloid, Kushtin, Lactones, Costunolide, Palmitic Acid, Dihydrodehydrocostus, lactone, propyl acetate, lauric acid.

Stimulant, stomachic, expectorant, tonic, diaphoretic

vs;S Sesamum indicum

Rit - ,dpg;G

tPhpak; - ntg;gk;

gphpT - ,dpg;G

vs;S kUe;ijf; nfLf;F Nkwdyhe; jpz;ikjU

Ks;spiyiar; NrHf;F Kjpuj;ijj; - js;SkpU

Fz;Zf; nfhsp nfhLf;Fq; fhrKz;lhk; gpj;jKkhk;

Gz;Zf; fplHGhpAk; ghH

glycerides of oleic and linoleic acids, stearin, palmitin and myristin. Sesamin, Liquid fatty acids are present to about 70 per cent., solid fatty acids 12 to 14 per cent.

Emmenogogue, stimulant, tonic ,diuretic, lactogogue, laxative.

Njq;fha; Cocos nucifera -Arecaceae

Rit - ,dpg;G

tPhpak; - jl;gk;

gphpT - ,dpg;G

neQ;rpw;wpkpUQ; nre;ePhpyOf;Fk; GilA

kQ;R fg thjnkhL thjKNk – tpQ;Rkpse;

njhq;fpdNj fHf;faHTe; JhaGj;jp ke;jKkhe;

njq;fpdJ fz;lhw; nwsp

Per 100 g, the green nut is reported to contain 77-200 calories, 68.0-84.0 g H_2O, 1.4- 2.0 g protein, 1.9-17.4 g fat, 4.0-11.7 g total carbohydrate, 0.4-3.7 g fiber, 0.7-0.9 g ash, 11-42 mg Ca, 42-56 mg P, 1.0-1.1 mg Fe, 257 mg K, trace of beta-carotene, 0.4-0.5 mg thiamine, 0.03 mg riboflavin, 0.8 mg niacin, and 6-7 mg ascorbic acid

Coconut oil is one of the least variable among vegetable fats, i.e. 0.2-0.5% caproic-, 5.4-9.5 caprylic-, 4.5-9.7 capric-, 44.1-51.3 lauric-, 13.1-18.5 myristic, 7.5-10.5 palmitic-, 1.0-3.2 stearic-, 0-1.5 arachidic-, 5.0-8.2 oleic-, and 1.0-2.6 linoleic-acids (C.S.I.R., 1948-1976).

gidnty;yk; Borassus flabelliformis - jaggery

Rit - ,dpg;G

tPhpak; - jl;gk;

gphpT - ,dpg;G

tl;L gdnty;yj;jhy; khHnghpr;ru; Fd;kkWk;

Kl;Le; jphpNjh~k; Kd;dpw;fh – fl;Lglh

The;jp Urpapd;ik thshAw;wpbDk;

Rhe;jp ngUFnkd;Nw rhw;W

Gum, fat, albuminoids, galactomannan,good source of biologically available riboflavin. Diuretic, demulcent, nutritive.

G+uk; hydrargyrum sub - chloride.

Rit - cg;G. fhHg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

jpuz;l thjq; Fly; thjk;

jPUQ;re;ep gjpd;Kd;W

kUz;Nl Fj;J kiuahg;G

kz;il #iy fghytpb

guq;fp #iygw;fpue;jp

gf;f#iy apitKjy; Nghk;

,Uz;lNkdp nghd;dpwkhk;

,JNt fw;gk; ,ak;gPNu

Antiseptic, sialogogue, alterative, cholagogue, purgative.

Ricinoliate of glycerol or tri ricinolein, palmitin, stearin

Non irritant purgative, Emmenogogue

Mkzf;F nea; Recinus communis(Caster oil) – euphorbiaceae

Rit - ifg;G

tPhpak; - ntg;gk;

gphpT - fhHg;G

Mkzf;F nea;ahy; eyKz;lhk; ahtHf;Fk;

G+kzf;F Nkdp GhpFoNy – tha;kzf;ff;

Nfhs;sp; tapWtpLq; NfhuKs;s thAtWk;

Cs;spy; tUFd;kk; Nghk; XJ

Ricin D - is a highly toxic protein, mol. wt. ~60 kDa, composed of two chains, A and B, connected by a single disulfide bridge

ricinoleic acid (12-Hydroxyoleic Acid) comprises approximately 90% of the fatty acid composition the other fatty acids are Palmitic acid,Palmitoleic acid,Margaric acid, Margaroleic acid, Stearic acid, Dioxystearic acid, Oleic acid, Linoleic acid, Alpha-Linolenic acid,Arachidic acid, Eicosanic acid, Behenic acid, Erucic acid

anti-inflammatory, anti-bacterial, Laxative, emollient

INCREDIENTS OF SENGOTTAI VALLADHI LEGIUM

Parangi pattai

Vaalluluvai

Sivanar vembu

Yanai Thipilli

Pooram

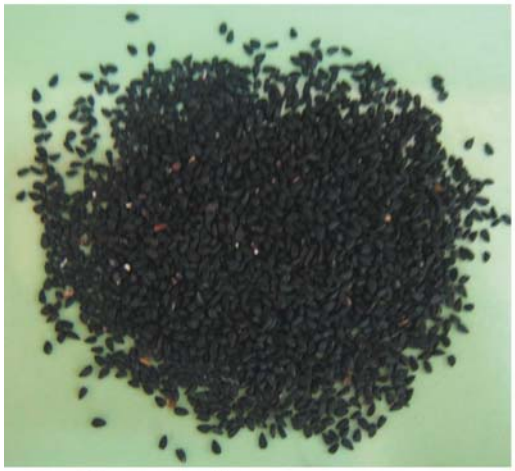
Kasturi manjal

Kadukkai

Amukkara

Serankotai

Mavilinga pattai



Karuncheeragam

Aarisi Thipilli

Panai vellam

Yellu

Sangam ver

Chithira moola ver

Kostum

Kopparai Thengai

SENGOTTAI VALLADHI LEGIUM

INCREDIENTS OF KALINGA THYLAM

Malai vembu

Vengaayam

Aatru thumatti

Elumichai

Kalinga Thylam

Preclinical pharmacological & Toxicological studies of Kalinga Thylam (KT) and Sengottai Valladhi Legiyam (SVL) on estrous cycle in experimental animals

Index

2.4 Antioxidant activity

3.0 Discussion

4.0 Reference

1.0 MATERIALS AND METHODS

1.1 Test Drugs

The following medicinal plants were used in the study were collected and processed by the methods prescribed in standard text books of siddha medicines.

1.1 Kalinga Thylam (KT) and Sengottai Valladhi Legiyam (SVL).

KT was prepared by the method described in (Kannusaamy parambarai vaithiyam., pg no : 211-212)

SVL was prepared by the method described in (brama muni karukkadai soothiram, pg no : 30)

1.2 Preparation of drug for dosing

All drugs used for the study was suspended each time with 1% (w/v) solution of sodium carboxy methyl cellulose before administration.

1.3 Drugs and chemicals

Fine chemicals used in these experiments were obtained from Sigma Chemicals company, U.S.A. Other analytical grade chemicals were obtained from S.d. Fine Chemicals Ltd., Mumbai.

1.4 Experimental animals

Colony inbred animals strains of wistar rats of either sex weighing 200 - 250 g and swiss albino mice of either sex (18-25 g) were used for the pharmacological and toxicological studies. The animals were kept under standard conditions 12:12 (day/night cycles) at 22^0C room temperature, in polypropylene cages. The animals were fed on standard

pelleted diet (Hindustan Lever Pvt Ltd., Bangalore) and tap water *ad libitum*. The animals were housed for one week in polypropylene cages prior to the experiments to acclimatize to laboratory conditions. The experimental protocol was approved by the Institutional Animal Ethical Committee (IAEC).

1.5 Acute oral toxicity study

Acute oral toxicity was conducted as per the OECD guidelines (Organization of Economic Cooperation and Development) 423 (Acute Toxic Class Method). The acute toxic class method is a stepwise procedure with 3 animals of a single sex per step. Depending on the mortality and /or moribund status of the animals, on the average 2-4 steps may be necessary to allow judgment on the acute toxicity of the test substance. This procedure results in the use of a minimal number of animals while allowing for acceptable data based scientific conclusion.

The method uses defined doses (5, 50, 300, 2000 mg/kg body weight) and the results allow a substance to be ranked and classified according to the Globally Harmonized System (GHS) for the classification of chemicals which cause acute toxicity

Wistar albino rats of either sex weighing 200-250 g were fasted overnight, but allowed water *ad libitum*. Since the formulation is relatively non toxic in clinical practice the highest dose of 2000 mg/kg/p.o (as per OECD guidelines "Unclassified") was used in the acute toxicity study.

The animals were observed closely for behavioural toxicity, if any by using FOB (Functional observation battery).

1.6 Repeated oral toxicity study

Repeated oral toxicity studies can be used to get additional information regarding the toxicity profile of a chemical. Repeated oral toxicity studies are defined as those studies where the chemical is administered to the animal for a period covering approximately 10% of

the expected life of the animal. Usually, the dose levels are lower than for acute studies and allow chemicals to accumulate in the body before lethality occurs, if the chemical possess this ability.

Experimental procedure

The following experimental procedure was followed to evaluate the repeated oral toxicity study of

1. Kalinga Thylam (KT) and Sengottai Valladhi Legiyam (SVL).

Group I : Control animals received 1% Sodium carboxy methyl cellulose (CMC), 2 ml/kg/p.o. for 21 days

Group II : Drugs suspended in CMC was given at the dose Level of 500 mg/kg/p.o. for 21 days

Body weight, food intake and water intake was recorded at two intervals with simultaneous observation for toxic manifestation and mortality, if any. At the end of 21 days treatment all the animals were sacrificed by over dosage of ether anaesthesia. Blood was collected and used for haematological studies. Section of liver, kidney, and heart were dissected out and kept in 10% formalin for histopathological studies.

1.7 Biochemical studies

Aspartate aminotransferase (AST)

Aspartate aminotransferase was estimated using commercial AST kit (Span Diagnostics) by the method of Reitman and Frankel (1957).

Alanine aminotransferase (ALT)

Alanine aminotransferase was estimated using commercial AST kit (Span Diagnostics) by the method of Reitman and Frankel (1957).

Alkaline phosphatase (ALP)

Alkaline phosphatase was assayed using commercial ALP kit (Span Diagnostics) by the method of King (1934).

Urea

Urea was assayed using the commercial kit (Span Diagnostics) by the method of Coulambe *et al*., (1965).

1.8 Haematological studies

Erythrocyte count

Erythocyte count was estimated by Hemocytometer method of Ghai (1995).

Total Leukocyte Count (WBC)

Total Leukocyte Count was estimated by Hemocytometer method of John (1972).

Haemoglobin

Haemoglobin was estimated by method of Ghai (1995).

1.9 Swimming induced stress in irregularities of estrous cycle in rats

Female rats (125-150 g) were randomized into groups of six animals each. Vaginal smear was taken at 9 am daily to evaluate the status of estrous cycle. Those animals showed the regular estrous cycle were selected for the study. The animals were divided into following groups and they received the respective regimen of treatment.

Group I - Control
(n = 6)

Group II - Test drug (KT + SVL, 500 mg/kg/p.o)
(n = 6)

The animals in Group I and II were given swimming stress for 30 mts in a vertical tub containing water upto 15 mm high maintained at room temperature. The vaginal smears of the stressed animals were examined for the stages of estrous cycle. The animals showed the diestrous stage after the swimming test were given the test drug at the dose of 500 mg/kg/p.o for 3 days and animals in the control group received vehicle only for same period. At the end of 3rd day after the drug/vehicle treatment the vaginal smears of all the animals were tested for the different stages of estrous cycle for the 4 consecutive days. The same experiment is continued for 4 cycles after the induction of swimming stress as explained above.

1.10 In Vivo Antioxidant study

Samples of serum collected from rats treated with test drugs were assayed for GSH (Moron *et al* , 1979) and LPO (Yagi, 1976) and the results were compared with control group.

2.0 Results

2.1 Preliminary basic, acidic radicals and phytochemical studies

The qualitative chemical analysis and acidic, basic radicals assay of the drugs showed the presence of phytoconstituents and minerals as depicted in (Table 1).

2.2 Acute oral toxicity study

KT and SVL at the dose of 2000mg/kg/po did not exhibit any mortality in rats. As per OECD 423 guidelines the dose is said to be “Unclassified” under the toxicity scale. Hence further study with higher doses was not executed.

2.3 Repeated oral toxicity for 21 days

Test drug KT and SVL at the dose of 500 mg/kg/po when administered orally for 21 days in rats did not show toxicity in renal functions. However the drug exhibited significant reduction in RBC count and elevation of marker enzyme levels of liver (Table 2 and 3).

2.4 Antioxidant activity

At the end of 21 days repeated oral toxicity study when the plasma of drug treated animals was examined for GSH activity, the level of GSH activity was increased significantly ($p>0.001$) in test groups (Table 4).

Results and Discussion

Normal menstrual cycle in women is often disturbed by physical and mental stress. These changes in menstrual cycle may be attributed to psychological stress compounded by endocrine disturbances. Menstrual irregularities in women in reproductive age may also be attributed to the work environment, circardian changes precipitated by working in night shifts and odd hours of the day, life style etc.

Irregular menstruation is regularized by siddha medicinal practitioners using herbo mineral preparations. Even these drugs are also used to treat clinical conditions like polycystic ovary. Though an model similar to human menstrual cycle cannot be developed in animals, stress induced changes in estrous cycle of rat can be used as a model to screen drugs which correct menstrual irregularities. The estrous cycle in rats will be completed in ¾ days and this will ease the cost and time of study for 5-6 cycles. The diestrous, proestrous, frack estrous and meta estrous can be identified by examining the vaginal cytology of rats.

The swimming stress is an ideal model, can be taken for evaluating drugs acting on the regularization of estrous cycle in rats.

In the present study all stressed rats uniformly showed diestrous phase of estrous cycle. The pretreatment with test drugs for 3 days before induction of swimming stress, helped to proceed the estrous cycle normally from diestrous to estrous, whereas the groups received no treatment were still on diestrous phase continuously for 3 cycles as evidenced by the vaginal cytology.

The exact mechanism of test drug that showed the reversal of irregularity on the estrous cycle of the rats after swimming test is not fully understood. The reversal of irregularity and maintenance of estrous cycle by drug treatment for another 3 consecutive cycles over untreated animals clearly establishes the positive correlation of results between clinical and experimental studies. Rat shows polyestrous, hence the results obtained from the rat study could be extrapolated to human study, is debatable. The hormonal profile of normal and stressed rats, before and after treatment and their reversal, if any, may give some more authentic data about the efficacy of drug in the treatment of menstrual irregularities in human beings.

The another important question to be answered on the efficacy of the drug treatment to prevent the irregularity of estrous cycle in 3-4 cycles is sustainable or not for a longer period or the drug treatment should be continued after a washout period of 3-4 cycles to maintain the regular cycle on a sustained basis.

Qualitative analysis of Acidic/Basic radicals and phytochemical constituents in test drugs

Procedure	Observation	inference
Test for Calcium : 2 ml of extract is taken in a clean test tube. To this add 2 ml of 4% ammonium oxide solution.	No white precipitate is formed	Absence of calcium
Test for Sulphate : 2 ml of the extract is added to 5 % barium chloride solution.	No white precipitate is formed	Absence of Sulphate
Test for Chloride : The extract is treated with Silver nitrate solution	No white precipitate is formed	Absence of Chloride
Test for carbonate : The substance is treated with Conc. HCl.	No effervescence is formed	Absence of carbonate
Test for Starch : The extract is added with weak iodine solution	Blue colour is formed	Presence of starch
Test for Iron (Ferric) : The extract is treated with glacial acetic acid and potassium ferrocyanide	No blue colour is formed	Absence of Ferric iron
Test for Iron (Ferrous) : The extract is treated with Conc. HNO_3 and ammonium thiocynate	No Blood red colour is formed	Absence of Ferrous iron
Test for phosphate : The extract is treated with ammonium molybdate and conc. HNO_3	Yellow precipitate is formed	Presence of phosphate
Test for Tannic acid : The extract is treated with Ferric chloride	Blue black precipitate is formed	Presence of Tannic acid
Test for Unsaturation : 1 ml of Potassium permanganate solution is added to the extract.	Does not get decolourised	Absence of unsaturated compound
Test for saponins: Dilute extract+ 1ml of distilled water shake well.	Froth formation	Presence of saponins
Test for sugars : **Benedict method** ; 5ml of Benedict solution heated gently then add 8 drops of diluted	No colour change	Indicates the Absence of sugar

extract then heated in a boiling water bath. **Molisch test**; Dilute extract+2 drops of Molisch+3ml conc.H_2SO_4.	No Reddish violet zones appeared	Absence of carbohydrate
Test for steroids : Liberman Burchard test ; Dilute extract +2 ml acetic anhydride+conc.H_2SO_4 .	No Formation of red colour	Absence of steroids
Test for amino acids: Dilute extract +2ml of Ninhydrin's soln .	Formation of violet colour	Presence of amino acids
Test for proteins: Biuret method ; 1ml of dilute extract+1mlof5%$CuSO_4$+ 1%NaOH.	Formation of Violet colour	Presence of proteins
Test for Flavanoids : Dilute extract+ mg bits+2drops of conc.HCl and gently heated.	No formation of pink colour	Absence of Flavanoids
Test for phenol; Dilute extract+2drops of $FeCl_3$ soln.	Deep green colour is formed	Presence of phenols
Test for Tannins ; dilute extract +2ml of 10%lead acetate add.	White precipitate formed	Presence of tannins
Test for alkaloids; Mayer's method;1ml of dilute extract + 1ml reagent. Dragendroff's method; 1ml of dilute extract+ 1ml of reagent.	Appearance of cream colour precipitate Appearance of orange colour precipitate	Presence of alkaloids Presence of alkaloids

Table 1

Preliminary acid, basic radicals and phytochemical screening

S.No.	Constituents	KT	SVL
1.	Calcium	+	+
2.	Iron (Ferric)	+	-
3.	Iron (Ferrous)	-	+
4.	Sulphate	+	+
5.	Chloride	+	+
6.	Carbonate	+	-
7.	Starch	-	+
8.	Phosphate	-	-
9.	Tannic acid	+	-
10.	Unsaturated	+	+
11.	Sugar	+	+
12.	Alkaloids	+	+
13.	Steroids	Trace	+
14.	Protein	+	+
15.	Tannins	+	+
16.	Phenols	+	-
17.	Flavanoids	-	-
18.	Saponins	-	-
19.	Amino acid	+	+
20.	Cardiac Glycosides	+	+
21.	Terpenoids	+	+

Table 2

Effect of Siddha Formulations (KT + SVL) on Haematological parameters after 15 days repeated oral dosing (500 mg/kg)

Groups	Hb (gm/100ml)	RBC (millions/cu.mm)
Control	12.45±0.4113	5.20±1.047
Test (500mg/kg. p.o.,)	14.67±0.5164**	6.467±2.033**

N=6; Values are expressed as mean ± S.D followed by Students Paired 'T' Test
**P<0.003 as compared with that of control.

Table 3

Effect of Siddha formulation (KT + SVL) on Biochemical markers of liver and kidney after 15 days repeated oral dosing (500 mg/kg/po) in rats

Groups	ALP (K.A.Units)	AST (IU/L) SGOT	ALT (IU/L) SGPT	Urea (mg/100ml)	BUN (mg/ 100ml)	Cholesterol mg/dl
Control	2.973±0.3929	62.89±1.906	25.48±2.93	16.38±2.12	7.52±0.84	53.75±6.90
Test (500mg/kg. p.o.,)	7.850±0.2074***	153.3±5.164***	64.75±0.88***	19.93±0.79ns	8.92±0.37ns	59.18±4.65

N=6; Values are expressed as mean ± S.D followed by Students Paired 'T' Test
***P<0.001 as compared with that of control.
ns – non significant when compared to control groups

Table 4

Anti oxidant activity of (KT + SVL) after 15 days repeated oral dosing (500 mg/kg)

Groups	LPO	GSH
Control	0.75 ± 1.37	13.56 ± 0.632
Test (500mg/kg. p.o.,)	0.21 ± 3.40***	47. 56 ± 0.339***

N=6; Values are expressed as mean ± S.D followed by Student T- Test.
***P<0.001 as compared with control.

Table 5

Effect of (KT + SVL) treatment in stress induced disturbance in estrues cycle in female rats

Groups	Estrus cycle in days				
	Diestrus 0 days	Proestrus 1st days	Fruek estrus 2 nd days	Frauk estrus 3rd days	Meta estrus 4 th day
Control group before stress	6/6	6/6	4/6	5/6	6/6
Test group before stress (500mg/kg. p.o.,)	6/6	6/6	5/6	6/6	5/6
Control group after stress	6/6	0/6	1/6	0/6	0/6
† Test group after stress (500mg/kg. p.o.,)	6/6	5/6	6/6	5/6	6/6

Data show the number of animals (n=6) in each group showed different stages of oestrous cycle observed by vaginal cytology, starting from diestrous to metaestrous at 9 am on the days of examination.

† The drug treatment was given for 3 days prior to the induction of stress.

PROTOCOL

AN OPEN TRIAL OF SIDDHA DRUG *SENGOTTAI VALLADHI LEGIUM* WITH *KALINGA THYLAM* FOR THE TREATMENT OF *GARPAVAYU* (PCOD)

BY

Dr.P.RAJALAKSHMI,M.D(s) Student,

Department of Maruthuvam,

National Institute of Siddha,

Chennai – 47.

1. BACKGROUND

Patients suffering from polycystic ovarian disease (PCOD) is characterized by scanty or absent menses, multiple cysts on the ovaries and infertility. These cysts occur by accumulation of many incompletely developed follicles in the ovaries when regular changes of a normal menstrual cycle and ovarian functions are disrupted. The ovary is enlarged 2 to 5 times and produces excessive amounts of androgen and estrogenic hormones.

This PCOD is correlated with *GARPAVAYU* mentioned in *Agathya mamunivar ayulvedham 1200*

‘பொருமி ரத்தந்தன்னை மறித்துப்போத மிகவும் வலியுண்டாங்
குருதி சேரா வயிறுவலிபோங் கொள்ளுங் கர்ப்பந்தனை யழிக்கும்
வருடி யிடுப்பு குடைந்துளைக்கும் வலத்தை மிகவும் மிறுக்கிறுக்கி
பெருகப்பணைக்கு மெனப்பெரியோர் பேசுங் கர்ப்பவாயுவிதே’

As per Saint Agathyar, *Garpavayu* with the symptoms of irregular menstruation, dysmenorrhea, infertility, missed abortions, obesity, low back pain and constipation. Nowadays the female infertility is raised by PCOD which is one of the causes for infertility, may be due to stress and altered dietary habits. During 2005 – 2006, approximately 1000 cases of *Soothaga noi* (including *GARPAVAYU*) were recorded in *out patient department of Ayothidoss Pandithar Hospital of the National Institute of Siddha*. It is proposed to evaluate the efficacy of *Sengottai valladhi Legium* with *Kalinga thylam* for the treatment of *GARPAVAYU (PCOD).*

2. AIMS

(a) Primary aim

To assess the efficacy of *Sengottai valladhi Legium* with *Kalinga thylam* for the treatment of *GARPAVAYU (PCOD).*

(b) Secondary aim

To find out side - effects of the drug, if any.

3. POPULATION & SAMPLE

The population consists of PCOD patients [Who show multiple cysts or enlarged ovary in their ultrasonogram (USG) report] satisfying the inclusion and exclusion criteria mentioned below.

The sample consists of PCOD patients attending the OPD of Ayothidoss Pandithar Hospital of the National Institute of Siddha, Chennai-47.

4. INCLUSION CRITERIA

1. Age 15 -45 years
2. Willing to attend IP/OP treatment
3. Willing to get purgation for the treatment purpose

5. EXCLUSION CRITERIA

1. Cardiac disease
2. Pregnancy and lactation
3. Hypertension
4. Peptic ulcer

6. WITHDRAWAL CRITERIA

During trial treatment, if the patient develops any of the following, she will be withdrawn from the study.

1. Severe abdominal pain.
2. Heavy menorrhagia.
3. Any other acute illness

7. TRIAL DRUG AND DURATION

Kalingadhi thylam – 15 ml in empty stomach for first three mornings after start of menstruation for 3 cycles.

Sengottai valladhi legium – 2 g twice a day for 48 days

Trial treatment period is 3 cycles.

8. SAMPLE SIZE

The trial size is 30 patients.

9. TESTS AND ASSESSMENT

(a) CLINICAL ASSESSMENT

Irregular menstruation, amenorrhea, oligomenorrhea, dysmenorrhea, infertility, spontaneous abortions, obesity, hirsuitism, constipation.

(b) ASSESSMENT BY INVESTIGATION

BLOOD

TC (cells / cu mm), DC (%), ESR (mm), Hb (g %),

Blood sugar (mg %).

URINE

Albumin, Sugar, Deposit, Neerkuri*, Neikuri*

ULTRASONOGRAM

Abdomen and Pelvis

(c) ASSESSMENT BY SIDDHA ASPECT

Naa, Niram, Mozhi, Vizhi, Malam, Moothiram (neer kuri and nei kuri), Sparisam, Naadi.

10. CONDUCT

Patients satisfying inclusion and exclusion criteria are selected for the study. Informed consent will be obtained from the patients.

The trial patients will be issued drugs for 15 days at a time. They will be instructed to come for next clinic visit after 15 days. Also they will be asked to bring back the unconsumed drug during their next visit and return the same.

11. FORMS

Form -1

Selection proforma – used before admission to the trial

Form -2

Assessment proforma – used during clinic visits once in 15 days

12. ANALYSIS

Paired t - test for before and after treatment means for objective parameters.

Paired chi - squared test for before and after treatment proportions for signs and symptoms.

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

AN OPEN TRIAL OF SIDDHA DRUG *SENGOTTAI VALLADHI LEGIUM* WITH *KALINGADHI THYLAM* FOR THE TREATMENT OF *GARPAVAYU* (PCOD)

CONSENT FORM

Certificate by Investigator

I certify that I have disclosed all details about the study in the terms readily understood by the patient.

Date …….. Signature …….

Name ……

Consent by Patient

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow-up including the laboratory investigations to be performed to monitor and safeguard my body functions.

I am aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

I, exercising my free power of choice, hereby give my consent to be included as a subject in the clinical trial of ***SengottaiValladhi legium*** **with** ***Kalinga thylam*** for the treatment of ***Garpavayu*** **(PCOD).**

Date …….. Signature ……

Name ……..

Date …….

Signature of Witness ……..

Name ……..

Relationship……....

Bibliography

BIBLIOGRAPHY

- Agathiya mamunivar Aayul vedham 1200
- Thirumoolar Thirumanthiram
- Biramma muni karukkadai suthiram
- Siddha maruthuvanga surukkam
- Siddha maruthuva noi vilakkam
- Pathinen siddhar naadi sasthiram
- Gunapadam Mooligai - Dr K.S. Murugesa mudaliar
- Gunapadam thathu - R. Thiyaragan
- Yugi Vaidhiya chinthamani
- Noi nadal Noi mudhal nadal thirattu, part -1 and part-2 by Dr.M .Shanmugavelu
- Siddha maruthuvam - Dr. K. N. Kuppusamy mudaliar
- Siddha principles of social and preventive medicine - Dr. G. Durairasan.
- Pathartha guna vilakkam (moolavarkkam) - C. Kannusamypillai
- A compendium of siddha doctrine - Dr. C. S. Uthamarayan
- Indian Materia medica - vol 1&2 - Dr. K.M.Nadkarni
- Introduction to Siddha medicine - T. V. Sambasivam pillai
- History of Siddha medicine - N. Kandaswamypillai
- Siddhar science of longevity and kalpa medicine of India - A. Shanmugavelan.
- Glossary of Indian medicinal plants, CSIR. - L.V Asolkar, K.K Kakar, O.J Chakre
- Udal thathuvam - P. M. Venugopal

- Tamil – English dictionary of medicine, chemistry, botany & allied sciences.
  - T.V. Sambasivam pillai
- Textbook of Medical physiology - Guyton & hall
- Gray's Anatomy - Susan standrig
- The Wealth of India
- Text book human Physiology - Saratha subramniam
- Essential of medical Physiology - K. Sembulingam
- Text book of gynaecology - Shah
- Text book of gynaecology - A.C Dutta
- Davidson's Principle and practical of medicine
- Common clinical problems in obstetrics and gynaecology
- Dorland's illustrated medical dictionary.
- Pathartha kuna vilakkam - C. Kannusamy pillai
- Mathar maruthuvam – Dr. S. Sithambarathaanu pillai
- Aathmaratchamirtham yennum vaithiya sarasangiragham.
- Sarabenthirar vaithiya muraigal garpini baalaroga chikitchai.
- Garpakkoal - Dr S. Sithambarathaanu pillai
- Agathiyar naadi
- Rathinasurukkam naadi
- Kannu saamy paramparai vaithiyam
- Sitha vaithiya thirattu.
- Satta muni naatham

- Barham D and Trinder, P.Analyst 1972:97:142.
- Coulambe G.G and Favrean L.A.Clin.Chem., (1965), 11, 624.
- Ghai C.L. A text book of practical physiology, Jaypee Brothers, India 1995; p.119-202.
- John MB. Laboratory Medicine Haematology. 4th Ed. C.V. Mosby co, St.Louis, 1972;p.1198-1209.
- Kanai L Mukherjee. A text book of medical laboratory technology. A procedure manual for routine diagnostic tests. Tata McGraw Hill Publishing company ltd. 1999; **1**:p.242-276.
- King E.J and Armstrong A.R (1934), Can.Med.Ass.J., 31, 376.
- Kulkarani SK. Handbook of Experimental Pharmacology 2005, Vallabh Prakasan, Delhi.
- Moron M.S, Difieree J.W and Mannerwik K.B. Levels of glutathione, glutathione reductase and glutathione s- transferase activities in rat lung and liver. Biochem.Biophy Acta 1979;582:67-68.
- Reitman S and Frankel S (1957), Am.J.Clin.path., **28**, 56
- Tenscher, A and Richterich, P. Schweiz Med. Wschr.1971 : 101:345 and 390.
- Yagi K. Simple fluorimetric assay for lipid peroxide in blood plasma. Biochem.Med.1976; 15:212-215.